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BEST PRODUCTS *of* 2008

- Editors' Best p. 25
- Community Choice p. 37
- Best of Tech•Ed p. 43

SOLUTIONS PLUS:

- Enable SoftGrid on the Road p. 46
- 3 Steps to Troubleshooting Device Drivers p. 52

A Quick
Batch File to
Simplify Software
Deployment p. 57

Deploy Exchange
on a Single Server p. 59

Dan Holme on
SharePoint at the
Olympics p. 69

EDITORS' BEST

Product of the Year
VMware ESX Server 3.5
VMware
www.vmware.com

Breakthrough Product
Google Docs
Google
docs.google.com

Special Achievement
iPhone
Apple
www.apple.com

Hardware Winners
Gold: Barracuda Spam Firewall
Barracuda Networks
www.barracudanetworks.com
Silver: Steelhead
Riverbed Technology
www.riverbed.com
Bronze: HP ProLiant DL585
HP
www.hp.com

Interoperability Winners
Gold: Centrify DirectControl
Centrify
www.centrify.com
Silver: Splunk
Splunk
www.splunk.com
Bronze: Likewise Open Spring '08
Likewise Software
www.likewiseoftware.com

Messaging Winners
Gold: PostPath Server
PostPath
www.postpath.com
Silver: 3CX Phone System for Windows
3CX
www.3cx.com
Bronze: Unify Enterprise Edition
Ensim
www.ensim.com

Mobile and Wireless Winners
Gold: Zenprise 3.3 for BlackBerry
Zenprise
www.zenprise.com
Silver: REDFLY Mobile
Companion
Celio Technology
www.celiorcorp.com
Bronze: Amazon Kindle
Amazon.com
www.amazon.com

Networking Winners
Gold: Engineer's Toolset
SolarWinds
www.solarwinds.com
Silver: Observer
Network Instruments
www.networkinstruments.com
Bronze: OmniPeek
WildPackets
www.wildpackets.com

Scripting Winners
Gold: Admin Script Editor
iTripoli
www.adminscripteditor.com
Silver: PrimalScript 2007
SAPIEN Technologies
www.sapien.com
Bronze: UltraEdit
IDM Computer Solutions
www.ultraedit.com

Security Winners
Gold: Astaro Security Gateway
Astaro
www.astaro.com
Silver: Catbird V-Agent
Catbird Networks
www.catbird.com
Bronze: OmniAccess 3500
Nonstop Laptop Guardian
Alcatel-Lucent
www.alcatel.com

Storage Winners
Gold: RamSan-500
Texas Memory Systems
www.superssd.com
Silver: Dell EqualLogic PS5000E
Dell EqualLogic
www.dell.com/equallogic
Bronze: E-Disk Altima ATA-133
BITMICRO
www.bitmicro.com

SharePoint Winners
Gold: File Migrator for SharePoint
Quest Software
www.quest.com
Silver: DocAve 4.5 Backup and
Recovery for SharePoint
AvePoint
www.avepoint.com
Bronze: Colligo Contributor Pro for
SharePoint
Colligo Networks
www.colligo.com

Systems Management Winners
Gold: Active Administrator
ScriptLogic
www.scriptlogic.com
Silver: ActiveRoles Server
Quest Software
www.quest.com
Bronze: AppManager
NetIQ
www.netiq.com

Training and Certification Winners
Gold: KSource Online Learning
AppDev
www.appdev.com
Silver: MCSE Boot Camp
Mountain View Systems
www.mntview.com
Bronze: MCSE 2003 Exam
Preparation
Transcender
www.transcender.com

Virtualization Winners
Gold: Parallels Virtuozzo
Containers
Parallels
www.parallels.com
Silver: VMware ThinApp
VMware
www.vmware.com
Bronze: everRun VM
Marathon Technologies
www.marathontechnologies.com

COMMUNITY CHOICE

Light Database Tools

Winner: Microsoft SQL Server 2005
Express
Microsoft
www.microsoft.com
Silver: MySQL 5.0
MySQL AB
www.mysql.com
Bronze: Microsoft SQL Server
Compact 3.5
Microsoft
www.microsoft.com

Antispam Solution for Business

Winner: McAfee Total Protection
Service
McAfee
www.mcafee.com
Silver: Perimeter Manager
Enterprise Edition
Postini
www.postini.com
Bronze: Symantec Mail Security
8200 Series
Symantec
www.symantec.com

Disk Imaging Software

Winner: Symantec Ghost
Solution Suite
Symantec
www.symantec.com
Silver: Acronis True Image Echo
Workstation with Acronis
Universal Restore
Acronis
www.acronis.com
Bronze: Image for Windows
TeraByte Unlimited
www.terabyteunlimited.com

Backup and Recovery Appliances

Winner: HP StorageWorks D2D
Backup System
HP
www.hp.com
Silver: SonicWALL Continuous
Data Protection Series
SonicWALL
www.sonicwall.com
Bronze: StoreVault S500
NetApp
www.storevault.com

Exchange Server Monitoring Tools

Winner: Microsoft System Center
Operations Manager 2007
Microsoft
www.microsoft.com
Silver: PROMODAG Reports for
Microsoft Exchange Server
PROMODAG
www.promodag.com
Bronze: Quest MessageStats and
Spotlight on Exchange
Quest Software
www.quest.com

Uninterruptible Power Supplies

Winner: Smart-UPS XL Series
American Power Conversion
www.apc.com
Silver: Smart-UPS SC Series
American Power Conversion
www.apc.com
Bronze: Back-UPS RS Series
American Power Conversion
www.apc.com

Laptop Synchronization Tools

Winner: PCsync
Laplink Software
www.laplink.com
Silver: Sync Logic
IPWorx.com
www.ipworx.com
Bronze: Beyond Compare
Scooter Software
www.scootersoftware.com

KVM over IP Switches

Winner: OmniView SMB KVM-over-IP
Switch F1DP116G
Belkin International
www.belkin.com
Silver: OmniView Remote IP
Device with Virtual Media F1DE101H
Belkin International
www.belkin.com
Bronze: APC 16-Port IP KVM
American Power Conversion
www.apc.com

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DocAve Software Platform

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SharePoint

Best Security Product
ScanMail for Microsoft Exchange

Best Virtualization Product
VMware Infrastructure 3

Best Systems Management and Operations Product
Athena

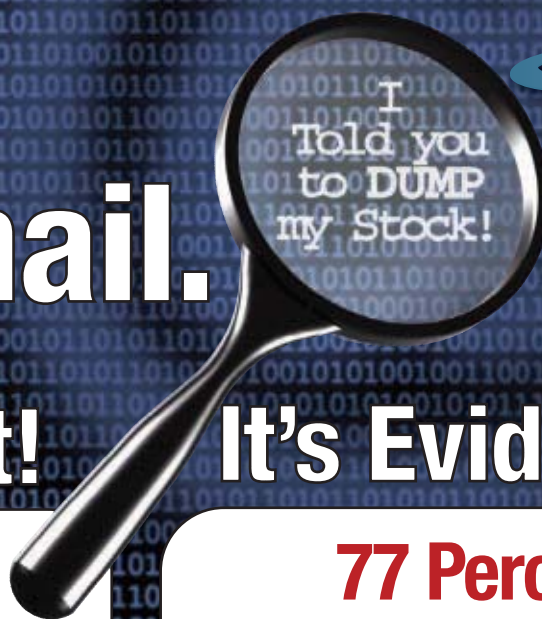
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BEST PRODUCTS *of* 2008

25

COVER STORY

25 Windows IT Pro Editors' Best

We identify the best products for Windows in 15 categories, including Product of the Year, Breakthrough Product, and Special Achievement. Start here to find products that will maximize the ROI of your IT infrastructure.

BY THE WINDOWS IT PRO EDITORS

37 Windows IT Pro Community Choice

Our readers have opinions about the best products, too, based on their experiences with using products day in and day out. Here are their picks in eight categories, including Exchange Server monitoring, laptop synchronization, and disk imaging.

BY THE WINDOWS IT PRO EDITORS

43 Awards Recognize the Best of Tech•Ed 2008 IT Professionals Conference

For our seventh annual awards issue, our judges traveled to Orlando to take a close look at the finalists for Best of Tech•Ed and bring you the top third-party products. The envelope, please!

BY THE WINDOWS IT PRO EDITORS



23



INTERACT

19 Reader to Reader

Use Netsh to fix socket layer problems, plus tweak the registry to make taskbar buttons group when you want them to.

23 Ask the Experts

Find out how to check AD database integrity, discover where SPNs are stored, and determine when a user last logged on.

Windows IT Pro

AUGUST 2008

VOLUME 14

NO 8

46



FEATURES

SOLUTIONS PLUS

46 Making SoftGrid Apps Work On the Road

Your users will be able to access all their SoftGrid applications even while on the road, when you combine SoftGrid client's new Offline mode with a technique to wrap your SoftGrid sequences as MSI files for deployment.

BY JEREMY MOSKOWITZ

50 Using the SoftGrid SMS Connector to Deliver a SoftGrid Application

SOLUTIONS PLUS

52 3 Steps to Troubleshooting Device Drivers

If your applications are loading slowly or overall system performance is suffering, the culprit might be a kernel-mode device driver. Knowing how to recognize, diagnose, and solve driver performance problems can save you time and prevent frustration.

BY STEVEN DAUGHERTY

52



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FEATURES

57 Use Cmd.exe's Start Command to Simplify Setup Automation

Use the Start command and a batch file to simplify small-scale software deployment, prevent accidental omissions, and significantly reduce contact time.

BY ALEX K. ANGELOPOULOS

59 Deploy Exchange 2007 on a Single Server

Exchange Server 2007 is designed to work on at least two physical servers, but you can set it up on just one by making configuration changes that enable the Hub Transport server role to handle Internet email and adding security to the Mailbox role.

BY DAMIR DIZDAREVIC

60 *How Messages Move in a Multiserver Exchange 2007 Environment*

OFFICE & SHAREPOINT PRO

69 Gold Medal SharePoint Applications in Beijing

As the NBC television Microsoft Technologies Consultant for the 2008 Beijing Olympics, Dan Holme used Microsoft SharePoint Technologies to solve many of the operations management tasks.

BY DAN HOLME

PRODUCTS

WHAT'S HOT

74 Readers Review Hot Products

Readers highlight their favorite products from Idera, Kerio Technologies, and Denis Bauer.

BY JEFF JAMES

COLUMNS



FORSTER | IT PRO PERSPECTIVE

7 Recognizing Microsoft's Fading Generation of Products

Karen acknowledges Server 2008, DPM 2007, and SCVMM 2008 for receiving Editors' Best awards and examines Microsoft's perspective on virtualization as it relates to a new generation of Web-integrated IT.



THURROTT | NEED TO KNOW

11 Apple iPhone Enterprise Features and Apple iPhone 3G

The iPhone Software Update 2.0 offers Microsoft Exchange ActiveSync (EAS) technologies, which is good news for enterprise users; plus, is iPhone 3G's mobile wireless network compatibility worth the cost?



MINASI | WINDOWS POWER TOOLS

13 Server Core from Afar

Let's continue our ongoing Server Core configuration effort by setting up remote administration. The potent combination of WinRM and Winrs makes it possible.



OTEY | TOP 10

14 Hyper-V FAQs

Michael helps you evaluate Hyper-V's requirements, such as how you upgrade or migrate from other VMs, and shows you some differences between Hyper-V, Virtual Server 2005, and VMware's ESX Server.

IN EVERY ISSUE



- 9 letters@windowsitpro.com
- 10 Your Savvy Assistant
- 87 Directory of Services
- 87 Advertising Index
- 87 Vendor Directory
- 88 Ctrl+Alt+Del





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"The 2008 wave of Microsoft products is opening the door for the new generation of Web-integrated IT."



Recognizing Microsoft's Fading Generation of Products

Ushering in an era of "logicalization"

Microsoft's new product releases in the past year have been numerous and significant. In many ways these products are revolutionizing IT. But even as I acknowledge the Microsoft products receiving our Editors' Best award this year, I can't shake the feeling that these releases are approaching the last hurrah of a fading generation of technology. So first, let me congratulate this year's winners. Then let's consider the oncoming generation and where it's taking Microsoft and IT.

Gold

Windows Server 2008 brought virtualization into the IT mainstream, created new competitive possibilities with Server Core, and simplified deployment with the concept of server roles. The product's technical achievements, its grounding in customer feedback, plus its timely and drama-free release earn this year's gold award for Server 2008.

Asked to comment on the award, Bill Laing (general manager, Windows Server Division) said, "Windows Server 2008 is Microsoft's most customer-focused server release to date; this is evident in how the server is configured and managed by role through the Windows Server Manager utility. Windows Server 2008, built with Web and virtualization technologies, enables you to increase the reliability and flexibility of your server infrastructure."

Silver and Bronze

The silver award for Microsoft products goes to System Center Data Protection Manager (DPM) 2007. Native backup and restore capability was never a strength of Microsoft products until DPM arrived a few years back. But DPM's initial versions protected only the OS. With DPM 2007, Microsoft extended disk-to-disk-to-tape backup to products that were crying out for such a solution: Exchange Server, Microsoft Office SharePoint Server (MOSS) 2007, and SQL Server. This award recognizes Microsoft for providing much-needed and eagerly awaited functionality.

System Center Virtual Machine Manager (SCVMM) 2008, with its support for Hyper-V and heterogeneous management of virtual and physical environments, has not yet been released. But SCVMM 2007 changed the competitive game in the virtualization arena by focusing Microsoft's value proposition on managing a mixed physical and virtual environment "from a single pane." The strategy behind SCVMM and the importance of management in a virtualized environment make SCVMM the bronze award winner this year.

The Next Generation

The 2008 product generation takes virtualization into the mainstream of Microsoft-based IT and is changing the way IT works. But the idea of virtualization is steadily expanding as a way of thinking beyond on-premise IT. Microsoft is now seeing virtualization as a broader concept that encompasses cloud computing, Web services, Software as a Service (SaaS), Software + Services (S+S), and Service-Oriented Architecture (SOA).

In this view, "virtualization" becomes "logicalization" of technology. As Bob Kelly (Microsoft vice president, Infrastructure Server Marketing) recently told me, "Virtualization is a way of making logical a bunch of physical stuff. The more that IT becomes logical, the much more quickly they'll be able to respond to business needs. Logicalization is not just about compute or storage. It's also in fact about applications—not just like Softricity style, but even SOA. Service orientation is really an isolation. Web services is just a virtualized service. It's isolated. The more IT gets on this road to making their infrastructure, their applications, and their environment logical, the faster they'll be able to consume this innovation and the more quickly they'll be able to respond to business needs. There's nothing like being able to stand up a new server environment with the press of a button because you have increased demand. That's what logicalization of IT means."

When Microsoft jumps on an idea, that idea spreads and grows wildly. So just as you're getting used to the various possibilities for and layers of virtualization, Microsoft is taking the idea of virtualization much further. By distilling "virtualization" down to its essence as "isolation" of physical hardware, OSs, and applications, Microsoft created a paradigm for understanding that cloud-based approaches are also essentially about "isolation."

This perspective on virtualization means that the 2008 wave of Microsoft products is opening the door for the new generation of Web-integrated IT. Early explorations of the idea of logicalization of IT include Microsoft Live Mesh and SQL Server Data Services. In the future, the industry might look back on Hyper-V and its approach to virtualization as quaint. But it just might also be seen as the granddaddy of an entirely different type of IT.

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■ PowerShell 101 ■ DNS Wisdom

■ PC vs. Mac ■ Server Core

PowerShell and Property Value

In "PowerShell 101, Lesson 3" (April 2008, InstantDoc ID 98177), the command

```
get-process |
where {($_.handles -gt 100) `
-and -not ($_.company -eq `
"Microsoft Corporation")}
```

is supposed to return all non-Microsoft processes. But three of the listed process names (i.e., CSRSS, SYSTEM, and WINLOGON) look a little out of place. When I use PowerShell to query them for their Company property value, all three return nothing. Microsoft obtained the CSRSS process from Citrix a few years ago, so the recoding is most likely an oversight. But I'm still wondering about the SYSTEM and WINLOGON processes.

—Mike Piontkowski



You bring up an important concern. You're getting these results because the Company property value is null for those processes. (PowerShell is indifferent to ownership

history and cares only about the property value itself!) You can write your code to take this fact into account, as in:

```
get-process |
where {($_.handles -gt 100) `
-and -not ($_.company -eq `
"Microsoft Corporation" -or `
$_.company -eq $null)}
```

Now, only processes whose Company value isn't Microsoft Corporation (or isn't null) are returned.

The problem with this approach is that it assumes that only Microsoft uses null for the company name, so you must determine how you want to handle such situations. Whenever you're using properties to create these Boolean expressions, be aware of the possible values for those properties. Write your expressions accordingly, and take into account the possibility of null values.

—Robert Sheldon

DNS Wisdom

I read the IT Pro Hero story, "Tried-and-True DNS Wisdom" by Caroline Marwitz (April 2008, InstantDoc ID 98330). In the sidebar, "A Sysadmin's DNS Best Practices," Apostolos Fotakelis writes, "Get rid of NetBIOS over TCP and WINS." Every time I've ever attempted to do that, I've lost mapped drives and have been unable to connect to any servers. What am I doing wrong? Also, if I disable NetBIOS over TCP from the Local Area Connection window, will it affect my WatchGuard VPN?

—Tony Sergi

Actually, in my article, I was referring to disabling NetBIOS over TCP via the Local Area Connection window. Disabling NetBIOS from Device Manager is a more drastic, problematic procedure that requires a reboot. Unfortunately, I have no experience with the WatchGuard VPN. However, disabling NetBIOS over TCP shouldn't have any side effects on firewalls or VPN connections. That being said, you should always be aware of potential consequences. (See the article "How can I configure TCP/IP networking while NetBIOS is disabled in Windows 2000/XP/2003?" at www.petri.co.il/disable_netbios_in_w2k_xp_2003.htm for more information.) And, of course, be sure to test the change before effecting it in your environment.

—Apostolos Fotakelis

PC vs. Mac

I loved Mark Minasi's Web-exclusive "No XP? Say It Ain't So, Ray!" (www.windowsitpro.com, InstantDoc ID 99284). I, too, am a big fan of XP, and I haven't found Microsoft Vista all that interesting. I did make the choice Mark talks about. When it was time to replace my Dell laptop (which was happily running XP), I went for a shiny MacBook Pro running Tiger (now Leopard). I have to say, I like my new computer so much that I plan to replace my five-year-old HP desktop system (happily

running XP) with a new iMac running—yep—Leopard! And courtesy of VMware Fusion, I'll pull the HP system's XP installation so that I can still run XP in its own little virtual machine (VM) on the iMac. XP is a beautiful thing, and forcing people to upgrade will only help Microsoft's competitors!

—Dan York

Server Core Commando

I just read Mark Minasi's Windows Power Tools column, "Go Commando with Windows Server 2008's Server Core" (June 2008, InstantDoc ID 98715). At the end of the article, Mark states that the only option for adding the DNS suffix from the command line is to modify the registry. However, you can also use the Windows Management Instrumentation Command Line (WMIC). First, find the adapter you want:

```
wmic nicconfig list
```

Next, add the DNS suffix. If the adapter's index is 1, you'd type something like

```
wmic nicconfig 1 call setdnsdomain
bigfirm.com
```

You can even perform this procedure remotely, as follows:

```
wmic /node:Server1 nicconfig 1 call
setdnsdomain bigfirm.com
```

When Server Core gets PowerShell support, you'll be able to use

```
Get-WmiObject Win32_NetworkAdapter
Configuration -ComputerName
Server1 |
Where-Object{$_ .IPEnabled -eq "TRUE"}
```

The object returned by this statement (System.Management.ManagementObject) supports the SetDNSDomain method.

—Aleksandar Nikolic

InstantDoc ID 99544

Oops!

We misspelled the name of the company VMware on the cover of our July issue. We regret the error and any confusion it may have caused.

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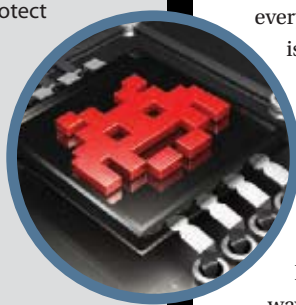
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A New Era of
Information DeliveryThis free, all-inclusive tool will enhance your
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When I started working for *Windows IT Pro*, I had never heard of “e-newsletters”—or “UPDATES” as we like to call them.

Fortunately for me—and those who hired me—it didn't take me long to put the “e” and the “newsletter” parts together. However, putting the e-newsletter content together was a whole different story. Back then, our company had an excuse of a tool that was more for launching than creating e-newsletters—and it didn't even launch them all that well. I dreaded that day

every month when I had to build a new issue and I could look forward to leaving the office cross-eyed from prolonged staring at my computer screen and dizzy from typing and testing HTML. I pitied the editors in charge of weekly and even (gasp!) *daily* UPDATES.

But now, a new day—and a new way—has come: the eNews Generator.

The eNews Generator is a free HTML and text e-newsletter builder for user-group leaders (or really, for anyone who needs to create content for email). The tool lets you combine your own messages and updates with more than 26,000 articles from *Windows IT Pro* and *SQL Server Magazine*, as well as all the Exchange and Outlook, scripting, security, and other articles that we publish exclusively on the Web; Paul Thurrott's WinInfo; Connected Home Express; and JSIFAQ. You can use our prebuilt templates, or send us your

favorite template and we'll incorporate it for you. The best part is that registering for the tool automatically signs you up for free, VIP-level access to all our online articles, and your e-newsletter readers don't have to be signed on or even members of our Web sites to read the articles! That's a huge bonus, if you ask me.



To learn more about the tool, go to usergroup.windowsitpro.com/generator, where you can read FAQs, view sample e-newsletters, and watch a screencast in which our online community manager, Chris Sigfrids, walks you through registering and creating your first issue. (Despite Chris's abnormally loud mouse clicking, the screencast is incredibly helpful.) Chris even gives his contact information for those who might need further assistance—a great personal touch. (That is not sarcasm.) Take a moment to watch it, and make sure to call him and ask if his refrigerator is running. (Neither is that.) If you want to know more about how this tool can benefit you (and Chris has blocked you from making any more prank phone calls), you can send me a message and we'll get you started. Contact me at christan.humphries@penton.com and let me know how e-newsletters and user groups fit into your career.



InstantDoc ID 99156

"Apple took the unexpected step of licensing Microsoft Exchange ActiveSync."



Apple iPhone Enterprise Features and Apple iPhone 3G

When the original Apple iPhone appeared in June 2007, it was accompanied by a level of hype that was almost unprecedented in the consumer electronics space. The hype was all the more impressive when you remember that this first iPhone lacked so many crucial features—for both consumers and business users alike—and was hobbled by AT&T's lackluster EDGE data network. Over time, Apple began addressing many of these limitations, and in July 2008 the company shipped iPhone Software Update 2.0, which, among other things, adds key functionality for the enterprise, including full support for Microsoft Exchange Server. Here's what you need to know about iPhone enterprise features.

It's All About Exchange

Although Apple isn't particularly well-regarded in the enterprise, knowledge and mobile workers in businesses large and small are as taken with Apple's innovative smart phones as are consumers. And they've been asking companies in droves to let them use the iPhone. The problem is, when the iPhone first shipped last year, it offered no direct support for Exchange, the de facto messaging solution at most businesses. (Apple's half-hearted response at the time—enabling IMAP support—was met with stunned silence.)

To address this need—and, frankly, to dramatically grow iPhone sales—Apple took the unexpected step of licensing Microsoft Exchange ActiveSync (EAS) technologies. Beginning with Software Update 2.0, iPhone customers will be able to access push email, push calendaring, push contacts, and global address lists (GALs) via Exchange.

But Wait, There's More

Apple isn't just adopting Exchange. It's also providing enterprise-oriented features in Software Update 2.0, including VPN support (specifically only Cisco IPsec VPN), certificates and identities (two-factor authentication), enterprise-class Wi-Fi (WPA 2 Enterprise, 802.1x), enforceable security policies (such as mandating the use of PINs on the iPhone), centralized device configuration, and remote wipe (so that a stolen or lost iPhone can be erased to remove any personal or corporate data on the device). These features might not seem particularly leading edge to anyone well-versed in enterprise mobility, but remember this is Apple we're talking about here. That this company is willing to go to these lengths to make the iPhone roundly successful is amazing.

Apple is implementing this enterprise functionality using the latest Microsoft-oriented techniques, and it will all work with the existing Mail, Phone/Contacts, and Calendar applications already built into

the iPhone; you won't need separate applications. (On a related note, Apple is also building Exchange client support in Mac OS X 10.6, code-named Snow Leopard, now due in mid-2009.)

Enterprise Application Deployment

When Apple first announced Software Update 2.0 back in March 2008, one of the big questions was how enterprises would deploy their own custom applications. The company responded to this need by providing a way for enterprises to distribute apps themselves. Basically, enterprises can authorize iPhones, then create applications that run only on those phones. They will distribute those applications on their own intranet, using any security they like, according to Apple CEO Steve Jobs. Users will download those apps onto their computer and sync them to the phone through iTunes. That last bit may cause some nervous glances: I have a hard time imagining enterprises rolling out iTunes to their users.

Apple also announced a third, ad hoc form of iPhone application distribution. This style of application distribution should be particularly interesting to educational institutions, which might need to email iPhone applications to classrooms of users or other large groups, although Apple didn't provide many details. There are limits to ad hoc app distribution—each entity, which could be a classroom, for example, syncs with only 100 phones—but it does appear to meet a need that's somewhere between what consumers want and the more stringent needs of enterprises.

Availability and Pricing

Software Update 2.0 will come with iPhone 3G devices and will be made available for free to users of original iPhones. Interestingly, this software will also be made available for the iPod touch, Apple's touch screen (and iPhone-like) portable device, which could turn this iPod into an interesting mini mobile tablet. However, iPod touch owners will have to pay \$9.99 for the upgrade.

Unfortunately, users who access the enterprise-oriented features of the iPhone or iPhone 3G—by, for example, accessing Exchange resources—will immediately find themselves in a monthly plan that's more costly than that offered to consumers via Apple's cellular carrier partners (AT&T in the United States, other partners worldwide). Business customers will have to pay an additional \$15 a month over the cost accrued by consumers, or a minimum of \$95 a month after all fees and taxes. That's exorbitant, even by the data plan standards of today. It's unclear if AT&T will offer better international pricing, another weak spot with the original iPhone. (Note, too, that iPhone 3G data plans are already more expensive than those of the original iPhone, so adding enterprise functionality will be even more expensive.)

Recommendations

Given its price—free—Software Update 2.0 is a no-brainer for all iPhone users. That said, the iPhone's heady set of enterprise functionality comes at quite a cost. Whether the cachet and functionality of the iPhone will overcome cost fears remains to be seen, but I will say this: The iPhone is in a league of its own and is a far nicer device than any RIM BlackBerry or Windows Mobile smart phone. It's worth at least examining. If the lack of Exchange support was your only barrier to iPhone adoption previously, iPhone Software Update 2.0 removes this problem.

InstantDoc ID 99524

iPhone 3G

By the time you read this, Apple will have released its second-generation smart phone, the iPhone 3G. This new iPhone hardware offers some important improvements over its predecessor. But the iPhone 3G also offers some hidden caveats that could obviate its most important benefits. Here's what you need to know about the iPhone 3G.

What's Old Is New

From a form-factor perspective, the iPhone 3G is almost identical to its predecessor. It's actually a hair thicker, but thanks to its tapered back, it appears thinner and fits better in the hand. The metal back from the original device has been replaced by a black (or, alternatively, white) plastic back. Meanwhile, the few side-mounted buttons on the device are now metal; they were plastic on the original.

Aside from that, the device's processor, camera, and display are unchanged. Battery life is expected to be comparable to the original, meaning it should be excellent.

That's 3G as in Wireless

The "3G" in the iPhone 3G's name refers to the fact that this device finally works with modern third-generation (3G) mobile wireless networks. (The iPhone 3G itself is a second-generation iPhone.) The original iPhone worked only with so-called 2.5G networks such as AT&T EDGE, a network whose performance and availability is so infamously poor that it's widely referred to as the iPhone's Achilles Heel.

AT&T's 3G wireless network, however, fares much better, and testing has found it to be faster than competing 3G wireless networks from carriers such as Verizon. That said, AT&T 3G is available in very few markets—major cities such as New York and San Francisco are well covered, but move outside these areas and your results will vary widely. For this reason, the iPhone 3G will also fail back to EDGE if AT&T's 3G network can't be found. (Like its predecessor, the iPhone 3G is also compatible with Wi-Fi-based wireless networks as well. Note that 3G, like Wi-Fi, is only used for Internet services and doesn't affect voice calls.)

Its 3G coverage aside, the iPhone comes with one other competitive disadvantage: It can't be tethered to a mobile PC and used as a wireless modem. And the iPhone 3G incurs a more expensive data plan than does the original iPhone, thanks to its faster networking and an assumption that iPhone 3G customers will be heavier data users.

True GPS

A glaring omission in the original iPhone was its lack of GPS functionality, due to the lack of a GPS hardware chipset. Apple partially made up for this omission in the original device with a software update that used Wi-Fi access point or cellular tower triangulation to estimate location, and though better than nothing, it offered nowhere near the accuracy of true GPS. The iPhone 3G dispenses with this software trickery by offering GPS hardware that integrates with the phone's Google Maps application for highly accurate tracking.

Availability and Pricing

Although the original iPhone was available in only six countries, the iPhone 3G will ship to a much larger audience. Apple says that it will ship in 25 countries at launch and will be available in up to 70 countries by the end of 2008.

Pricing is a controversial area. While the original iPhone debuted at ungodly prices (\$499 and \$599 for the two original models) and carried steep monthly packages because of its data plan requirement, the iPhone 3G comes with a more traditional buying model. For individuals, the iPhone 3G will sell in



two versions, one with 8GB of flash storage for \$199 and a 16GB model that will retail for \$299. (These prices are for the United States only; Apple says they represent the maximum pricing we'll see worldwide.)

If that sounds like a huge price cut, hold on to your calculator: AT&T and Apple's other worldwide wireless carriers are now subsidizing the cost of the device, so monthly

charges are going up—way up in some cases. The base monthly fee for an iPhone 3G is \$10 higher than it was for the original device—or about \$80 a month after fees and taxes. Put another way, over the course of a two-year contract, the iPhone will cost at least \$40 more than its predecessor. And that price doesn't include Short Message Service (SMS) messaging anymore, a feature that will incur additional fees. The low-end SMS package will add another \$5 a month. So if you use SMS, the iPhone 3G is at least \$160 more expensive than its predecessor, over two years. Business customers—that is, those who wish to use the iPhone 3G to access Exchange Server-based email, contacts, and scheduling—will pay even more.

Recommendations

If you already have an original iPhone, upgrade to iPhone 3G only if you're sure you're going to get good coverage by AT&T's 3G network. Otherwise, you might want to hold off: The original iPhone will offer identical performance on AT&T's EDGE network and can be upgraded for free to utilize the same system software as the iPhone 3G (and access business features such as Exchange). If you live in a major city, or are sure that you can get AT&T 3G, the extra cost of the iPhone 3G might be warranted. AT&T 3G performance is excellent, and you're going to want it to take advantage of Apple's iPhone App Store and to keep your Exchange data synchronized efficiently.



InstantDoc ID 99525

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“Although Winrs is a remote-control tool, it doesn’t require that you open any of the Five Ports of Peril—TCP 135, 139, and 445 and UDP 137 and 138.”

Server Core from Afar

Use WinRM and Winrs to set up remote Server Core administration

In this column’s continuing effort to configure Windows Server 2008’s GUI-less incarnation, Server Core, we’ve named the server, given it a DNS suffix, assigned static IP values, enabled Automatic Updates, and worked with Ocsetup and Oclint—tools that let you add or remove server modules such as DNS and DHCP. Now, let’s set up remote Server Core administration by taking the nifty, new remote-access tool Winrs for a spin.

A Better Alternative

When I set up Server Core systems for clients, they always want to know how to enable Remote Desktop. My answer is always, “Wait! There’s a better alternative!” Server Core can’t run 95 percent of GUI-based applications, so there’s no need to enable Remote Desktop, particularly when Server 2008 and Windows Vista share a new secure remote command shell—that is, the Winrs command.

I like Winrs because although it’s a remote-control tool, it doesn’t require that you open any of the Five Ports of Peril—TCP 135, 139, and 445 and UDP 137 and 138. Winrs runs atop TCP port 80; it essentially runs on HTTP or, more exactly, HTTPS traffic. To do so, Winrs takes advantage of the relatively new Windows Remote Management (WinRM) protocol that’s built into Server 2008 and Vista. You enable WinRM by typing (from an elevated command prompt)

```
winrm quickconfig -quiet
```

Run that command on both the host and client machines—you need only do it once.

WinRM won’t let Winrs communicate with any hosts except the ones it trusts. WinRM trusts all fellow members of an Active Directory (AD) forest, but a WinRM client won’t talk to another system in a workgroup unless you give the client the OK by issuing the command

```
winrm set winrm/config/client @{TrustedHosts="<list>"}
```

where *list* is either a comma-delimited list of DNS names or IP addresses of trusted systems, or an asterisk to denote “trust every host.” For example, to trust the system at 192.168.1.7 and the system named ace.bigfirm.com, you’d type

```
winrm set winrm/config/client @{TrustedHosts="192.168.1.7,ace.bigfirm.com"}
```

You must type the TrustedHosts command on the *client*, not the server. Thus, if I wanted to use Winrs to control a Server Core system from a Vista system, all I’d have to do is enable WinRM on

both systems, then execute a TrustedHosts command on the Vista machine, and I wouldn’t have to execute one on the Server Core system. That seems a bit backward to me! In fact, given that Winrs requires NTLM, Kerberos, or certificate-based logons by default, it already boasts plenty of security, and you’re probably safe by simply typing the following command at the client:

```
winrm set winrm/config/client @{TrustedHosts="*"}
```

Putting It to Work

To find out your system’s current list of trusted hosts, you’d type

```
winrm get winrm/config/client
```

Assuming that your client system trusts the remote Server Core system and that both systems have run *winrm quickconfig* (or the Group Policy equivalent), you’d then type

```
winrs -r:<remotesystemnameoraddress> [-u:<username>] <command>
```

If you’re remotely controlling a system in the same forest and need to use a different account than the one you’re logged in as, or if you’re remotely controlling another system in a workgroup, you’d use that -u parameter. For example, to tell a system named sc1.bigfirm.com to run an IPconfig command where sc1.bigfirm.com has an administrative account named *administrator*, you’d type

```
winrs -r:sc1.bigfirm.com -u:administrator ipconfig
```

Winrs would then prompt you for the password for the *administrator* account, and you’d get the output of an IPconfig command run on sc1.bigfirm.com. If you need to run several commands instead of just one—a likely scenario on Server Core—you’d be better off typing

```
winrs -r:sc1.bigfirm.com -u:administrator cmd
```

On my Vista desktop, Winrs is useful as a command prompt that I can open at any time and type an administrative command to the Server Core system. I think WinRM and Winrs add up to a far superior remote-command solution for Server Core than Remote Desktop (unless you’re attempting remote control from Windows XP, which doesn’t offer Winrs). Give it a try!



InstantDoc ID 97945

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"Comparisons of Hyper-V to Microsoft Virtual Server and VMware's ESX Server always stir up a lot of confusion."

Hyper-V FAQs

Eliminate virtualization confusion about scalability, migration, and other topics

Hyper-V is Microsoft's newest entry into the enterprise virtualization arena. It's the successor to Microsoft Virtual Server 2005 R2. Comparisons of Hyper-V to Virtual Server and VMware's ESX Server always stir up a lot of confusion. To help eliminate some of that confusion, here are 10 of the most frequently asked questions about Hyper-V.

- 10 Does Hyper-V run on top of Windows Server just like Virtual Server 2005 does?**—No. Virtual Server 2005 is a hosted virtualization product, so the virtualization support is provided in a software layer run by the host OS. Hyper-V uses a hypervisor-based architecture that runs directly on the system hardware: There's no intervening host OS.
- 9 Can I upgrade to Server 2008 and get Hyper-V?**—In most cases, you won't be able to upgrade older servers to take advantage of Hyper-V. Hyper-V requires an x64 processor with hardware-assisted virtualization capabilities (i.e., Intel's Intel-VT or AMD's AMD-V). Systems more than a year or two old aren't likely to have such processors.
- 8 Does Hyper-V support non-Windows OSs as guests?**—Yes. In addition to Windows OSs, Hyper-V will support all Xen-enabled Linux distributions as first class virtual machines (VMs). You can find a list of the supported Hyper-V guest OSs at www.microsoft.com/windowsserver2008/en/us/hyperv-supported-guest-os.aspx.
- 7 Does Microsoft's licensing for running a virtual environment under Server 2008 Enterprise Edition and Datacenter Edition apply only to Hyper-V?**—No. This licensing applies no matter what virtualization product is used, including VMware's ESX Server. Microsoft allows up to four active VMs under Server 2008 Enterprise Edition and an unlimited number of active VMs with Server 2008 Datacenter Edition.
- 6 Is Hyper-V more scalable than Virtual Server 2005 R2?**—Yes. Hyper-V runs on 64-bit hardware and it supports virtualization hosts with up to 2TB of RAM and VMs with up to 64GB of RAM. This is far above Virtual Server 2005 R2's limit of 3.6GB of RAM per VM. In addition, Hyper-V supports VMs with up to four virtual CPUs; Virtual Server 2005 R2 is limited to single-processor VMs.
- 5 Are Hyper-V and ESX Server essentially the same?**—No. Both products are hypervisor-based, but the implementation is quite different. ESX Server device drivers are part of the hypervisor itself. Hyper-V uses a microkernel implementation with no device drivers in the hypervisor: They're in the parent partition.
- 4 How do I migrate Virtual Server 2005 VMs to Hyper-V?**—Uninstall Virtual Machine Additions from the VM you want to migrate. Next, move the Virtual Hard Disk (VHD) image to a location accessible by the Hyper-V Manager and build a VM that's comparably configured. Finally, when prompted to create a new virtual drive, select the existing Virtual Server 2005 R2 VHD file. However, you'll be prompted to reactivate because Windows will detect a massive hardware change.
- 3 Does Hyper-V have tools to convert VMware VMs to Hyper-V VMs?**—No. Microsoft's Virtual Server Migration Toolkit requires Automated Deployment Services, making it too difficult to use. Microsoft's System Center for Virtual Machine Manager converts VMware VMs to VHD image format, but it isn't free. You can find free and commercial third-party tools as well.
- 2 Is Virtual Machine Additions required with Hyper-V?**—In Virtual Server 2005, Virtual Machine Additions moved part of the VM processor into the host kernel. Hyper-V's use of hardware-assisted virtualization makes that unnecessary. After the guest VM has been installed, you can optionally install integration components that add functions such as a data exchange service. For Windows Server 2003, integration components are necessary to get device drivers for Hyper-V's synthetic devices.
- 1 How do I get the final release version of Hyper-V?**—The version of Hyper-V that shipped with Server 2008 was pre-release code. The final release of Hyper-V will be distributed from Microsoft via Windows Server Update Services. VMs created under the Hyper-V beta will need to be rebuilt, but VMs created using the release candidate should be compatible.



InstantDoc ID 99440

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... Tired of Nursing Your Exchange Server?

#1 BEST SELLER!



Anyone who has given birth to an Exchange network knows it can get sick and needs some nursing to stay healthy. In fact, 72% of Exchange Administrators surveyed* have "experienced" an Exchange disaster (feels like the flu)—usually from improper feeding and care.

Like many databases, constant adding and deleting can corrupt an Exchange data file so it eventually turns sour. Replicating, archiving and backing up the data doesn't stop the stink—it just stores it. You've got to...

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"Without routine maintenance, decreasing performance, increased warnings and errors accumulate and database fragmentation transpires, leading to Exchange disasters."

Gartner

Prevent Hiccups

GOexchange removes errors, warnings and inconsistencies within the database—before major corruption makes the database fail.

"GOexchange corrected 2,264 errors and 26 warnings."

Paul Ramos, Director IT

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"..our information stores were reduced by 45-50%."

Dale Huitt, Systems Lead

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You can do some of this work yourself, but why waste time doing repetitive maintenance, when GOexchange can do it for you—faster and more effectively than doing it by hand.



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"Life before GOexchange...was an absolute nightmare, late nights, long weekends and upset users."

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Let's protect what's important

What's in your computer? Photos, music, personal files, financial data, broadband access, videos, and more. Your computer has never been more important, and yet it has never been at higher risk for damaging power surges and other disturbances.

So like most people, you need to protect your assets. But like most people, you'd also like to protect the environment. With our new energy conscious products, you can do both. Energy efficient by design, our new smart products protect the power going into your computer, at a cost that is quickly offset by big energy savings. How? Not only do the new Back-UPS ES[®] and SurgeArrest[®] use power very wisely, they also boast a master/controlled outlets feature, which automatically powers down idle devices to conserve energy.

APC power protection products are available at:



"The pricetag on the new UPS is \$99.99. While I'm not in the habit of endorsing products in this blog, if you're in the market for a workstation-class UPS, why not opt for the greener option?"

- Heather Clancy,
ZDNet.com

In fact, while protecting your power supply, we're up to 5 times more energy efficient than any other solution. By saving you \$40 a year in energy costs, our Back-UPS ES pays for itself in 2 short years. The high frequency, low copper design has a smaller transformer and environmental footprint. Even the packaging has been carefully selected and manufactured to maximize use of recycled materials and minimize waste.

In this world, every decision you make counts. So protect your power with a battery backup that works to protect the environment. It conserves power, it pays for itself, and it's backed by APC's 20-plus years of legendary reliability. For more information on this or our other great products, or for information about environmentally responsible disposal of your old battery, visit www.apc.com



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The Reader to Reader (R2R) section is written for IT pros by IT pros. That's what makes it such a hit among *Windows IT Pro* readers and Web site visitors. To showcase the talent and creativity of these IT pros, we're planning to feature the most interesting R2R write-ups in a cover story.

So, if you've come up with a creative shortcut, solved a plaguing problem, turned a tedious task into an effortless one, or come across information other IT pros should be aware of, let us know about it. You don't need to be a skilled writer. We have editors who will turn your write-up into polished prose. All you need to do is tell us in 1,000 words or less what prompted you to come up with the shortcut, solution, or streamlined task and how it works. If you're sharing information, let us know how you came across that information. You can send your R2R write-up (or write-ups if you'd like to send more than one) to r2r@windowsitpro.com.

We'll be sending all the R2R write-ups we receive in the next few months to our technical editors, who will decide whether to accept them for publication. A panel will then review all the accepted R2R submissions and select the most interesting write-ups for the cover story. The accepted R2R write-ups that aren't selected for the cover story will be printed in the R2R section in future *Windows IT Pro* issues. Whether an R2R write-up is part of the cover story or printed in the R2R section, the author will receive \$100 when it's published.

Send your R2R write-up to us today!

10

According to Microsoft, every 10 PCs that switch from Windows XP to the more energy-efficient Windows Vista is the equivalent of taking an automobile off the road in terms of carbon dioxide emissions.

■ Cover Story

■ Socket Layer

■ Taskbar Buttons

READER TO READER

Use Netsh to Reset the Windows Socket Layer

I recently encountered a serious problem in my Windows Vista 64-Bit Edition machine. Suddenly and for no apparent reason, I couldn't open any Web pages because Microsoft Internet Explorer (IE) repeatedly failed to connect to Web sites. (Although Vista x64 comes with both the 32-bit and 64-bit versions of IE by default, Vista x64 opens the 32-bit version because most of the plug-ins fail to run or even install in the 64-bit version.) After some investigation, I discovered that some of my other 32-bit programs couldn't connect to the Internet or any network. Also, the 32-bit programs were crashing when I tried to close them. Curiously, the 64-bit programs didn't experience these problems. I could open, close, and use them to connect to the Internet and networks.

I knew that TCP/IP wasn't causing the problem because my machine could ping hosts and resolve DNS names. The event logs didn't contain any relevant entries, except for those noting that the 32-bit applications crashed.

I tried restoring the system and repairing the network connection, but the problem remained. Vista SP1 Release Candidate 1 (RC1) had been made public the day before, so I gave it a try. Nothing changed.

At this point, I seriously considered reinstalling Vista but instead decided to use the ISO Open Systems Interconnection (OSI) model to troubleshoot the problem and find a solution. (If you're unfamiliar with the OSI model or you need to refresh your memory, go to the Microsoft article "The OSI Model's Seven Layers Defined and Functions Explained" at support.microsoft.com/kb/103884.)

Because every 32-bit application was experiencing problems, it wasn't application specific, so I eliminated the application layer. The problem didn't seem to have any relationship with conversion or encryption, so I also eliminated the presentation layer.

I then had to deal with the session layer. I opened a 32-bit Telnet client and tried to open a



Apostolos
Fotakelis

session with a server. The program failed to connect without even creating any network traffic. (No packets were being transmitted or received on the NIC's properties. I even used a sniffer to double-check this.) I wondered whether there was a way to repair just the session layer in Windows. After I rejected the idea of trying to find the relevant DLLs and replacing them with DLLs from the Vista DVD, I remembered an old tool that I hadn't tried: Netsh.

While doing some Internet research on Netsh, I found the Microsoft article "How to determine and to recover from Winsock2 corruption in Windows Server 2003, in Windows XP, and in Windows Vista" (support.microsoft.com/kb/811259). This article presented a solution that made sense: Use Netsh to reset the Windows socket layer.

Using Netsh for this purpose is easy. You just need to open a command prompt, start the Netsh program, then type `winsock reset`. Alternatively, you can abbreviate `winsock` to `wins` so that you're typing `wins reset`. You have to reboot for the changes to take effect.

Share your Windows discoveries, comments, solutions to problems, and experiences with products and reach out to other *Windows IT Pro* readers (including Microsoft). Email your contributions to r2r@windowsitpro.com. Please include your phone number. We edit submissions for style, grammar, and length. If we print your submission, you'll get \$100. Submissions and listings are available online at www.windowsitpro.com. Enter the InstantDoc ID in the InstantDoc ID text box.



Microsoft's Celine Allee Talks About Windows Client TechCenter

In a recent candid conversation, Celine Allee spoke with Michele Crockett, publisher of Windows IT Pro Custom Media, about how the Springboard Series is evolving into the Windows Client TechCenter (www.microsoft.com/springboard), which provides resources, tools, monthly straight-talk articles, and upfront guidance based on early adopter and community feedback. You can view a video of the entire interview at <http://ittv.net>.

The Evolution of the

Springboard to a new Web site

Michele Crockett: *Celine, let's talk about some of the goals that you've had and some of the significant changes with the Windows Client TechCenter Web site that you're rolling out.*

Celine Allee: Certainly! The first thing I'd like to underscore is that the Springboard Series online has been around since November of last year. And that has become the blueprint of the new Windows Client TechCenter. We now have a managed experience across an adoption lifecycle that IT pros can self-select from in order to get the right resources, at the right technical level, at the right time if they're looking to adopt new OS technologies such as Windows Vista. We also have a managed experience across XP. This is very much an OS-agnostic resource, which is focused on the key activities and tasks of IT pros, to get them the help that they need, when they need it, in a more straightforward, more manageable, discoverable manner.

What's significant compared to the past is that typically we've had resources that have launched with the operating system—for example, single-image management, which came with Windows Vista. We've actually built tools: People are familiar with BDD, now known as Microsoft Deployment Toolkit. But the missing piece in this structured guidance has been to not just learn how to do and implement a simple or complex task, but also help you understand why you might want to get on board with newer technologies. So by being able to have a managed experience across the adoption lifecycle, you're able to not just understand how to do certain things, but also some of the rationale behind why you should even get on board. Then you can start to assess the road ahead, plan for adoption, understand the advantages that you can have along the way, learn tips and tricks from other people in the community who are going down similar paths. So you're able to better understand both the

risk and the opportunity, and feel more confident moving forward.

Michele: *And how did you engage the community to find out what some of their main pain points were?*

Celine: My role in that, and my team's role, is to be a sounding board in the IT pro community. For example, we talk to the community and manage the Windows forums. You'll see us at events where we do Microsoft Learning programs. The Windows Client TechCenter is designed to address the key questions and issues that IT pros have as they move forward in their adoption path. Questions people have when they're just discovering their technology are very different than when they're in the pilot phase, or even the explore phase, of their adoption lifecycle, through to deployment and management. It's just a different set of issues and questions. So we try to acknowledge those upfront and be more proactive in the guidance that we offer.

Our whole approach with the new Windows TechCenter and the Springboard Series, which exists in the TechCenter, is to make sure that what we provide fits into a real-world context, based on the key activities that IT pros may be doing, and the key pain points they're encountering in doing their day-to-day jobs.

Michele: *I noticed in the new TechCenter Web site that the resources for XP and Vista are rolled together in one place, whereas in the previous version those were separate resources. Can you talk about the background on that change, and what the influences were?*

Celine: When organizations are adopting a new OS, it's not like they're replacing one OS for another very quickly. The migration happens over a long time. So it didn't make sense for us to have two distinct tech centers. We also believe in more of the managed experience that we want to create. We want to make sure it's very easy for users as they're migrating to

www.microsoft.com/springboard

SPRINGBOARD Series

a more modern OS environment such as Windows Vista, with other components, like Microsoft Desktop Optimization Pack, to get the resources that they need. And we want to make sure that we're able to guide IT pros based on where they're at, from an infrastructure maturity perspective. So the philosophy around one Windows Client TechCenter is that this is the one-stop shop, the one engagement platform to get all that guidance and advice. And that feedback, that guidance, is not coming only from Microsoft; it is coming from the community, too.

A One-Stop Resource

Michele: *Let's talk about the structure of the Windows Client TechCenter and some of the functionality. Can you give us a few high points about how the information is organized for IT pros?*

Celine: Certainly. First of all, to get to the new TechCenter, go to www.microsoft.com/springboard. Once you get there, you'll see that we have this notion of an adoption lifecycle. Literally, what you want to do is self-select where you feel you are in the adoption lifecycle. These resources are actually part of what we're calling the Springboard Series. So anything that's part of the Springboard Series is literally vetted to make sure that it really is at the right level, and it's at the right relevance, dependent on the particular adoption pillar you select. And you'll see that information is organized even from an overview perspective or an advance perspective. We're trying to make sure that we can shortcut your adoption path, your experience; so that's really important.

You'll also see that there are new community components. There are blogs from various SMEs, the Windows Vista Team blog, Mark Russinovich. Access to the forums is far more prominently indicated, so that you can get and give

advice from IT professionals who are your peers.

One of the neat things that we've added is more assistance with troubleshooting and support resources. For example, knowledge-based articles—how do you search that database a lot more easily? And that was in direct reaction to people saying that they wanted to have a better experience in finding some of these really critical articles that exist today. In many respects it wasn't that we don't have a lot of the resources and information; it's just been a bit hard to find.

As you continue to explore the TechCenter site you'll notice that we have task areas that are literally deep-dive zones where you can get more troubleshooting information. For example, one of the most interesting, widely debated areas is Application Compatibility, especially if you look at Windows Vista adoption. In that zone we have information organized around the top resources. We definitely have this view of whatever role you have, here are the critical resources that you want to look at first. So if you're a project manager, or a tester, for example, you get the resources that you might require in order to help you solve some of the issues you're encountering with application compatibility.

The TechCenter site also provides a database that drives in a live feed of the latest and greatest applications that have been tested for working with Windows Vista, either certified as part of our local program, or as reported by the ISVs themselves as being ready for Vista. This is the type of information that, as an IT pro, can be leveraged and utilized as you're looking at a Vista migration. These particular zones are interesting because they underscore some of the areas where we've been asked for deep-dive guidance. And equally, if you look at Hardware Compatibility and Performance, you'll see a similar experience.

Make it Your Own

Michele: *And as time goes on, I assume you can collect metrics from the site to find out which areas of the site people have great interest in—you know, which resources are getting hit the most?*

Celine: Absolutely! This is built and created by the community, for the community. The whole approach is what we're doing with the Springboard Series. And having that be the blueprint of the experience on the Windows Client TechCenter is literally to make sure that we have a greater level of empathy, that we're actually being more thoughtful about how we present things, based on what people are trying to achieve. We know people don't have all the time in the day to find answers to their questions. And the worst thing, too, is searching for something and your challenges, your issues are not acknowledged. So we're trying to get better at that and this is a step in that direction. We know that there's clearly more work to be done, but we're hoping that through this experience and through additional feedback from the community that this really does become a real rich, one-stop resource.

Michele: *I'm looking forward to the next evolution of the site. What are some of the things that you foresee being able to implement as time goes on that will enhance the experience more?*

Celine: Our goal is to make sure that we respect people's time, that information becomes far more consumable. This is just a start of things. I want folks to get behind this. This is your resource. We're hoping that this is going to become very rich, it's going to become very engaging, and it's designed for everyone reading this. So the more you make this your own, the more you tell us what you want to see, the more it will be your own.

Microsoft®

I like Netsh and have used it many times throughout the years. However, I didn't realize you can use it to repair the Windows socket layer because I never faced that problem before. Now I have one more reason to like Netsh: It fixed the problem and saved me from the always painful reinstallation.

—Apostolos Fotakelis, systems administrator, NATO, and freelance IT consultant
InstantDoc ID 99370

Customize the Size of Taskbar-Button Groups

If you often have multiple instances of applications (e.g., several Microsoft Word documents, several Microsoft Excel spreadsheets) open on your



Alex K. Angelopoulos

desktop, one of the handiest Windows features is taskbar-button grouping, which was introduced in Windows XP. As you probably know, for

each instance of an application, Windows places a button in the taskbar. The taskbar can get crowded if you have a lot of buttons. Instead of having virtually unreadable taskbar buttons in multiple rows at the bottom of the screen, you can group taskbar buttons.

You can control whether taskbar buttons are grouped by right-clicking the Start button, choosing Properties from the context menu, and selecting the Taskbar tab. As Figure 1 shows, you select the *Group similar*

taskbar buttons check box to group buttons or clear the check box to ungroup them.

When the check box is selected (which is the default), taskbar buttons from the same application are grouped, but you have no control over when grouping starts or ends. This behavior is disconcerting because as you open and close instances of applications, buttons spontaneously group and ungroup, causing the buttons to shift around. What's worse is that when buttons are ungrouped, you can't use the Close Group option.

Although you can use the TweakUI tool to tweak grouping behavior, this tool isn't available for Windows Vista. (TweakUI is part of the Microsoft PowerToys for Windows XP.)

TweakUI's cousin—Tweakomatic—will run on the 32-bit edition but not the 64-bit edition of Vista.

So, if you have the 64-bit edition of Vista or you just want to tweak grouping behavior on your own, you can do so by creating a registry entry named TaskbarGroupSize under the HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced key. The TaskbarGroupSize entry has an effect only when the *Group similar taskbar buttons* feature is enabled.

When you set TaskbarGroupSize's DWORD value to 0, Windows will group the buttons by age, which is the default grouping behavior. For example, suppose you launch Word, Excel, then Notepad, after which you open many files in each application. When the taskbar gets too crowded, Windows will group the buttons for the Word files first because Word was launched first, provided that it isn't a Word file that's prompting the grouping. If that's the case, the second application launched

(Excel in this example) will group first.

When you set TaskbarGroupSize's value to 1, Windows will group the buttons for the application with the most windows open first. When you set the value to any other number, Windows will automatically group the buttons for any application that has at least that many windows open. So, by setting the TaskbarGroupSize value to 2, you can force buttons to always group, which is the behavior I prefer.

Listing 1: TaskbarGroupSize.vbs

```
Dim WshShell
Set WshShell = CreateObject("WScript.Shell")
Dim path
path = "HKCU\Software\Microsoft\Windows\CurrentVersion\" & "Explorer\Advanced\TaskbarGroupSize"
Dim value
If WScript.Arguments.UnNamed.Count = 0 Then
    On Error Resume Next
    value = WshShell.RegRead(path)
    On Error Resume Next
    If VarType(value) = 0 Then
        ' The taskbar grouping size hasn't been set.
        WScript.Echo "TaskbarGroupSize = undefined"
    Else
        WScript.Echo "TaskbarGroupSize =", value
    End If
Else
    WshShell.RegWrite path, WScript.Arguments.UnNamed(0), _
    "REG_DWORD"
End If
```

To make the registry tweak, I wrote short script named TaskbarGroupSize.vbs, which Listing 1 shows. You can download this script by going to www.windowsitpro.com, entering 99367 in the InstantDoc ID box, clicking Go, then clicking the *Download the Code Here* button.

When you run the script by simply double-clicking it, it returns the current value for TaskbarGroupSize. If that entry hasn't been created, it returns the value *undefined*, as Figure 2 shows. When you launch the script from the command line and provide a numeric argument, it sets TaskbarGroupSize to that value for you. ♦

—Alex K. Angelopoulos, senior network engineer

InstantDoc ID 99367

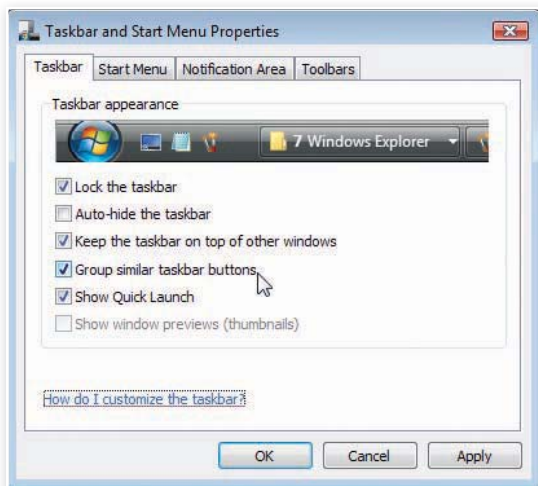


Figure 1: Grouping similar taskbar buttons in Vista

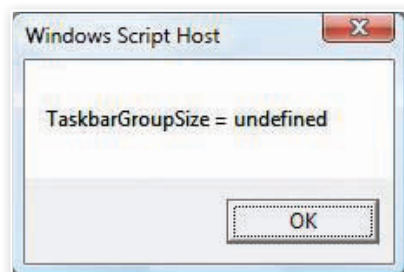


Figure 2: Sample results from running TaskbarGroupSize.vbs without any arguments

■ Active Directory ■ Authentication

■ Troubleshooting

Q: How can I check Active Directory (AD) database integrity?

A: You can use Ntdsutil to check the AD database. You must have booted into Directory Services Restore Mode. (At boot time, press F8 and select Directory Services Restore Mode.) Start Ntdsutil. With Windows Server 2008 and later, you must first select an active instance via the Activate Instance NTDS option, which loads the directory service; although, if others were present, they could be activated instead. Access the File Maintenance section via the Files command, and run the Integrity check. You can also perform a Semantic check via the Semantic Database Analysis module.

—John Savill
InstantDoc ID 99407

Q: Where are SPNs stored in Active Directory (AD)?

A: Each object has a servicePrincipalName attribute, which is a multivalued attribute in which all SPNs are stored. You can use ADSI Edit to view the attribute. If the SPN is for a machine's Local System account, the SPN would be stored in the servicePrincipalName attribute of the Computers account in AD. You shouldn't write to this value directly. It should be updated only via the DsWriteAccountSpn call (but you can update it directly by using tools such as ADSI Edit).

When a client requests a connection to a service, the Key Distribution Center (KDC) searches the forest for a user or computer account for which the SPN is registered. If the KDC finds registration in more than one account, the request for authentication fails, indicating a rogue service registration.

—John Savill
InstantDoc ID 99408

ASK THE EXPERTS

Q: How can I find a user's last logon time in a Windows domain? Where is a user's last logon time stored in Active Directory (AD)?

A: AD stores a user's last logon time in the Last-Logon AD user object attribute. As with the logging of account logon events, the last logon time is updated only in the AD instance of the domain controller (DC) that actually authenticated the user, meaning you must query all the DCs in the domain in which the user's account is defined to find his last logon time.

Microsoft included a new AD user object attribute called Last-Logon-TimeStamp in Windows Server 2003. The Last-Logon-TimeStamp attribute stores the approximate value of the last logon time of a user. The value is approximate because AD replicates the Last-Logon-TimeStamp attribute only once every 14 days to avoid replication overhead. Although the Last-Logon-TimeStamp doesn't resolve the problem that you must query all DCs in the user's domain if you want to know the exact last logon time, it does give administrators a way to discover inactive or stale accounts. The Last-Logon-TimeStamp attribute is activated only when the domain is switched to the Windows

2003 domain functional level. For more information about Last-Logon-TimeStamp and to download sample scripts to query the value of the Last-Logon-TimeStamp attribute of a given user, go to www.microsoft.com/technet/scriptcenter/topics/win2003/lastlogon.mspx.

You can also view the value of Last-Logon-TimeStamp for a given user from the Microsoft Management Console (MMC) Active Directory Users and Computers snap-in if you install a special DLL called acctinfo.dll. This DLL is included in the Account Lockout and Management Tools, which can be downloaded from www.microsoft.com/downloads/details.aspx?FamilyID=7AF2E69C-91F3-4E63-8629-B999ADDE0B9E&displaylang=en. Acctinfo.dll adds the Additional Account Info tab to an AD user account's properties, as shown in Figure 1. The Additional Account Info tab contains different types of account logon and logoff information, including the value of the Last-Logon-TimeStamp attribute.

—Jan De Clercq
InstantDoc 99409



Figure 1: The Additional Account Info tab



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Tues., Aug. 5, 2008, at 3:00 p.m. CDT

vRanger Pro/vReplicator Overview
Thurs., Aug. 7, 2008, at 10:00 a.m. CDT

Virtualization 101
Tues., Aug. 12, 2008, at 9:00 a.m. CDT

The Benefits of 'Green IT' & Virtualization
Tues., Aug. 26, 2008, at 3:00 p.m. CDT

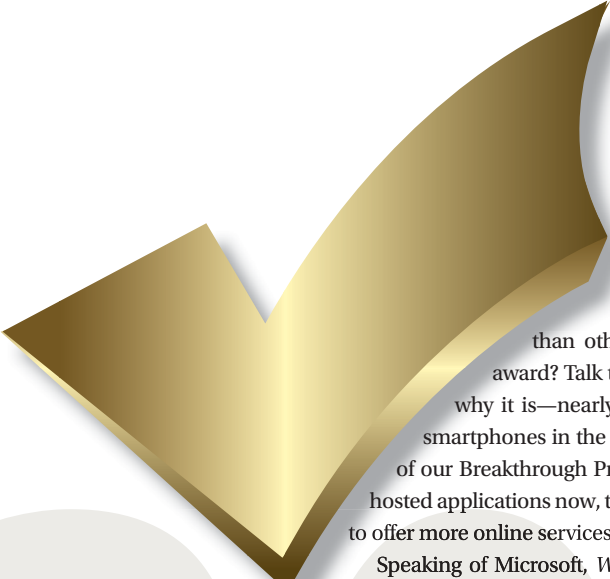
Top 10 Tips for Successful Conversions
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EDITORS' BEST



The *Windows IT Pro* Editors' Best awards recognize products and services that our editors and contributors have selected as standing out from the rest in more than a dozen categories. Our judging team narrowed the list down to dozens of finalists, then winnowed that list even further. After some heated discussions and testy email exchanges, we arrived at those you see here: the *Windows IT Pro* Editors' Best awards winners. All these products can help you do your job faster, more efficiently, or more economically.

IT pros will undoubtedly debate some of our picks more than others. Is the Apple iPhone worthy of a Special Achievement award? Talk to a host of mobile phone executives as we did, and you'll see why it is—nearly all of them mentioned the iPhone when discussing where smartphones in the enterprise are headed. And what about Google Docs, winner of our Breakthrough Product award? Although most enterprises might not be using hosted applications now, they soon will be: Microsoft is following Google's lead in a push to offer more online services through its Software + Services (S+S) strategy.

Speaking of Microsoft, *Windows IT Pro* Editorial and Strategy Director Karen Forster devotes her IT Pro Perspective column (page 7) to a discussion of the best Microsoft products she's seen and hands out awards for three worthy offerings from Redmond.

The following pages contain what we think are the best products on the market, but we also know that you—*Windows IT Pro*'s readers—have your own opinions about which products are worthy of recognition and which deserve a quick delete or spirited heave through a nearby office window. We've created an Editors' Best awards category in the *Windows IT Pro* online forums (www.windowsitpro.com), and we invite you to log on and share your opinions of the good, the bad, and the spectacularly ugly products you've had the privilege (or misfortune) to buy and use. If you think that our choices are misguided, feel free to log on and give us a piece of your mind!

Product of the Year

VMware ESX Server 3.5

VMware

www.vmware.com



The *Windows IT Pro* editorial team looks at dozens if not hundreds of products every year, and picking one winner out of all those in a particular category is always a challenge. That predicament is further amplified when we consider a product for our most prestigious Product of the Year award. **VMware ESX Server 3.5**—a subset of the VMware Infrastructure 3 bundle—made our decision easy this year.

Virtualization has shaken the IT industry to its roots over the past few years, and no product influenced that sea change more than the ESX Server family. In an interview with *Windows IT Pro*, VMware President and CEO Diane Greene mentioned how virtualization is generating tangible, significant cost and energy savings for IT administrators. “We estimate that there have been at least six million workloads virtualized since 1998,” says Greene. “If we figure 7,000 kilowatt hours for every physical server that is virtualized per year, that goes to 39 billion kilowatt hours. [That translates] into about \$4.4 billion saved, which represents enough energy to power Denmark for a year.”

In addition to the energy and cost savings that ESX Server 3.5 has generated, it has also helped radically redefine how IT pros manage their infrastructures. Michael Cisek, the director of emerging infrastructure and operations



VMware President and CEO Diane Greene (above and below)

support for PITT OHIO EXPRESS, has relied on ESX Server 3.5 (and the VMware Infrastructure 3 bundle) to radically revamp his IT infrastructure. “We’ve been able to reduce our server pool using server consolidation, often at a fifteen-to-one consolidation ratio. Our server deployment time went from days or weeks to minutes and hours, thus reducing

the overall development cycle of new products and application,” says Cisek. “We’ve also experienced zero-cost hardware replacements [by using virtual machines]; when equipment begins to fail, we perform physical-to-virtual-server conversions... We’re also in the process of converting to a virtual QA infrastructure. Our goal is to have one-to-one representation of all mission-critical applications for QA and testing. Finally, our developers used to maintain multiple physical workstations: one for production, one for development, and one for QA. We’ve been able to consolidate all three of those functions onto one physical PC by using VMware Workstation.”

The impending arrival of Windows Server 2008 with Hyper-V will mean more competition for VMware in this rapidly growing market segment. If VMware can revolutionize the IT industry in an unopposed market, what can it do when motivated by an aggressive competitor? It’s shaping up to be an exciting battle, one that every IT administrator (and penny-pinching CFO) will be watching with interest.

—Jeff James





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Google
docs.google.com



For the past decade or so, Microsoft Office has dominated the office productivity suite market. Love it or hate it, Office is a staple of the modern workplace. Competitors such as IBM's Lotus products and Corel's WordPerfect have either been left by the wayside or absorbed into other companies.

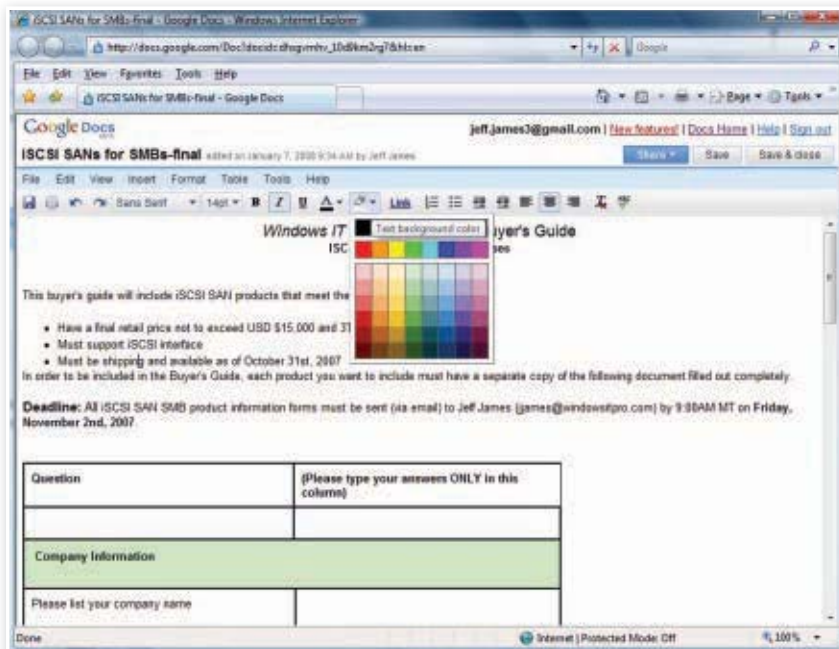
However, thanks to increasing bandwidth and network performance, online alternatives to Office have been gaining traction, and chief among those is **Google Docs**, a collection of business applications hosted by Google. While we should be under no illusions about Google Docs replacing Office as the dominant office productivity software suite, the success of Google Docs shows that there is strong interest in easy-to-use productivity software that can be quickly accessed online.

"Microsoft's move to Windows Live and its new Software + Services strategy are certainly spurred by Google's recent moves," says Michael Otey, technical director of *Windows IT Pro*. "Google's Web-based [office productivity] suite is available in the form of a free standard edition as well as a full-featured premier edition for \$50 per user per year."

Microsoft has responded by developing Microsoft Office Live Workspace (currently in beta), an application that makes it easy for Office users to share documents online. The S+S initiative takes this product a step further into the cloud, while early previews of the Live Mesh computing concept reveal that Microsoft is spending a lot of time thinking about how the Internet will impact the company's core business.

As it stands, Google Docs is an excellent, low-cost alternative for consumers and small businesses that might not need (or can't afford) a full Office suite. Perhaps more important, Google Docs has forced the industry to look at hosted productivity solutions in a new light, blazing a trail that even Microsoft has to follow.

—Jeff James



Special Achievement

iPhone
Apple
www.apple.com



Apple's **iPhone** has attracted millions of loyal customers—the intense consumer demand and marketing frenzy preceding the iPhone launch even led some pundits to dub the device the "Jesus phone." Now, with success in the consumer market well documented, Apple is making a concerted effort to get the iPhone into the hands of more enterprises.

For the iPhone 2.0 firmware update, Apple has licensed Microsoft's ActiveSync protocol, a technology that will let IT departments integrate iPhones with Microsoft Office Outlook email, contacts, address lists, and calendars; erase data on lost devices; manage passwords; and configure VPN settings on iPhones used in the enterprise. The firmware update will also support Cisco IPsec VPN and the Wi-Fi Protected Access 2 and 802.1x wireless protocols.

"Apple is indeed trying hard to attract enterprise users—thus their licensing of Exchange ActiveSync," says Paul Robichaux, senior contributing editor to *Windows IT Pro*. "[Apple] may not steal many seats from organizations that have already bought BlackBerry Enterprise Server software, but I guarantee they'll pick up lots of RIM's clients in small and mid-market organizations."

Robichaux believes that those gains will also make inroads into enterprise territory

currently held by Microsoft's Windows Mobile platform. "Apple is aiming for the low-hanging enterprise fruit, while Microsoft has a much more comprehensive strategy. For example, now that Microsoft's shipping System Center Mobile Device Manager, they have a very strong solution for device management and security. The iPhone, by comparison, doesn't have all of Mobile Device Manager's features, but it implements the basics that enterprise and mid-market customers want: Exchange support, over-the-air sync, and remote wipe."

Although it's too early to tell how successful the iPhone will be in the enterprise market, there's little doubt that Apple has made all the other players in the industry take notice. "Apple's doing what they have repeatedly done in the last seven years or so: introduce a product that forces the entrenched market leaders in that segment to hustle like mad to catch up to both perception and reality," says Robichaux. "The iPhone has generated buzz around smart mobile devices in a way that nothing else has been able to."

—Jeff James



Hardware Winners

Gold: Barracuda Spam Firewall
Barracuda Networks
www.barracudanetworks.com

Why it won: Spam management is a frustrating, time-consuming process. The Barracuda Spam Firewall's appliance-based approach takes the sting out of the task.



Spam continues to be a problem for everyone who uses email. What many users probably don't understand is the Herculean effort that most administrators put forth to combat the problem.

Boasting ease of use and affordability, the **Barracuda Spam Firewall**—an integrated hardware/software solution for protecting email servers from spam, viruses, and spyware—is gaining remarkable traction.

With its hourly spam- and virus-definition updates, the Barracuda Spam Firewall requires very little maintenance and administrative overhead. Compatible with all email servers, the appliance can fit into nearly any corporate or small-business environment. And unlike software solutions, it reduces the load on the email server by offloading spam and virus filtering. The product also includes essential outbound filtering techniques.

To get a feel for the product in the real world, I spoke with Kirk Whitham, a systems administrator at North American Directory Services. "I was a little apprehensive about using a hardware solution for email management, but the Barracuda has surprised me. Installation was simple, and the software tools are easy to understand. It's much smarter about spam filtering than any software-only solution we've tried."

Windows IT Pro contributing editor Eric Rux agrees that the appliance does a great job of filtering out spam and virus-infested email. "But what really sets it apart are its great features and outstanding support," Rux said. "I value its hourly and daily

statistics graphs and its appliance-health information—such as system load, CPU temperature, and mail/log storage—and I love the clustering option, which lets multiple Barracuda Spam Firewalls share configuration information. But my favorite feature is remote troubleshooting, which gives you online access to Barracuda support technicians."

—Jason Bouberg

Silver: Steelhead
Riverbed Technology
www.riverbed.com

Why it won: Riverbed's **Steelhead** appliances offer a scalable approach to application acceleration across your WAN. Our readers have sung the praises of the Steelhead appliances, reporting incredible compression and bandwidth savings after installing them.

Bronze: HP ProLiant DL585
HP
www.hp.com

Why it won: If you're looking for a rack-mounted enterprise-class server, you can't go wrong with the **HP ProLiant DL585**. The system's four-way dual-core Opteron configuration provides amazing performance, and HP's Insight Manager and iLO enable effective remote management for enterprise deployments.

Interoperability Winners

Gold: Centrify DirectControl
Centrify
www.centrify.com

Why it won: Centrify DirectControl easily and seamlessly integrates Linux, UNIX, and Mac OSs with Active Directory and provides robust UNIX and Linux personality management and strong migration management.



As open-source and Macintosh OSs become increasingly enterprise-friendly and widely used, IT administrators will face growing interoperability concerns. Centralized account administration solutions can help you manage mixed environments by enabling single sign-on and controlling authentication, access, and security policies for Windows, Linux, UNIX, and Mac OSs.

Centrify DirectControl centralizes management of disparate systems in Active Directory (AD), providing a single point of control over security and configuration policies. With DirectControl, non-Microsoft systems can join an AD domain so that you can manage them by using Group Policy and the other controls you use to manage your Windows systems. DirectControl lets you organize systems into logical groupings that have a unique set of security policies, a unique set of users and administrators, and separate access rights. You can even specify what action DirectControl should take in the event of a conflict (e.g., between GUIDs).

In "Cross-Platform Identity Management Solutions for Single Sign-On" (September 2007, InstantDoc ID 96592), a comparison of DirectControl and two other products, Darren Ehmke and Eric Rux wrote "DirectControl is by far the most complex when it comes to setting up and using UNIX personality management, but it's also the most robust. You can't go wrong if you choose Centrify."

—Todd Erickson

Silver: Splunk
Splunk
www.splunk.com

Why it won: Splunk lets IT pros index and search all sorts of enterprise data, such as alerts, logs, and config files. If you're drowning in data, Splunk can help you find what you need, when you need it.

Bronze: Likewise Open Spring '08
Likewise Software
www.likewisessoftware.com

Why it won: If you have a heterogeneous shop and need to incorporate Linux, UNIX, or Macintosh systems into AD, **Likewise Open Spring '08** has you covered. It offers a single, unified username and password solution for all those environments.





Messaging Winners

Gold: PostPath Server
PostPath

www.postpath.com

Why it won: PostPath Server is a drop-in, compatible alternative to Microsoft Exchange Server that saves money on licensing, hardware, and management tools.



There are many reasons you might want to consider an alternative to Exchange Server for your messaging environment, particularly if your organization is looking to upgrade or expand.

The new architecture and management structure of Microsoft Exchange Server 2007 have caused many admins to wonder whether upgrading is worth the hassle. Linux-based **PostPath Server** is a viable alternative; in fact, it's the only email and collaboration server that's natively compatible with Microsoft products and existing Exchange organizations—no add-ons or plug-ins required.

According to Duncan Greatwood, CEO of PostPath, "We've broken this compatibility lock so that we really are in a position to give customers a choice." Outlook, BlackBerry Enterprise Server, and other Exchange servers all interact with PostPath as if it were an Exchange server. PostPath uses a standards-based Linux file system for data storage, enabling lower storage costs

and backup and restore without the need for specialized tools.

Clyde Williams, infrastructure systems manager for Southeast Alabama Medical Center, cited both lower cost and ease of implementation as reasons for switching his organization to PostPath Server. "For an Outlook user, they don't know the difference," Williams said. New users and mailboxes are created through AD, and you can use Exchange systems management tools to manage PostPath Server. "From my experience so far, it just plain works," Williams said.

—Brian Winstead

Silver: 3CX Phone System for Windows
3CX

www.3cx.com

Why it won: The 3CX Phone System for Windows is a software VoIP system that runs on Windows. It replaces the traditional hardware PBX and is much less expensive.

Bronze: Unify Enterprise Edition
Ensim

www.ensim.com

Why it won: Ensim's Unify Enterprise Edition automates provisioning and change requests as part of a comprehensive systems management solution. It's a market leader in managing all the elements of a unified communications environment.

Recent upgrades solidify this position by enhancing features such as security, mobility, and management of Exchange deployments.

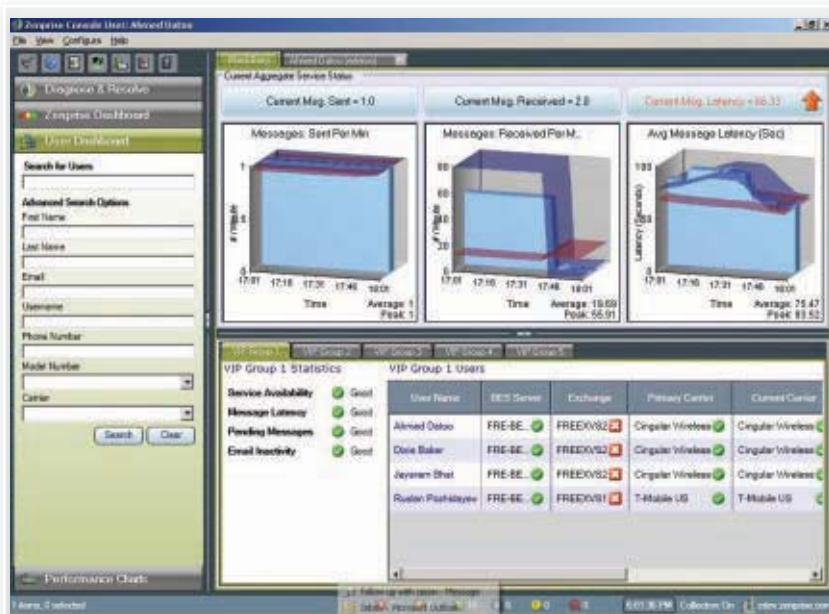
Mobile and Wireless Winners

Gold: Zenprise 3.3 for BlackBerry
Zenprise
www.zenprise.com

Why it won: Zenprise for BlackBerry is the best overall management solution for an area that's often an IT administrative black hole.



Everyone seems to be using PDAs these days—especially in the IT field, where employees often must be accessible 24 x 7. IT administrators are burdened with the task of managing all these devices, which can sometimes be more of a headache than not having PDAs at all. Research in Motion's (RIM's) BlackBerry has become one of the most popular PDAs and a standard addition to employees' literal toolbelts. **Zenprise 3.3 for BlackBerry** provides an easy interface for managing your mobile infrastructure and eliminates many of the compliance and security problems that are inherent in widespread PDA use.



Windows IT Pro Senior Editor Jason Bovberg notes that "the complex interactions between users, the BlackBerry Enterprise Server, Exchange Server, AD, networks, and other systems can result in downtime with serious ramifications on user productivity and IT stress levels." Zenprise for BlackBerry solves problems related to BlackBerry Enterprise Server

"The tools in the Engineer's Toolset give you exactly what you need, exactly when you need it."

(BES) database connectivity, BES Admin permissions, Exchange infrastructure problems that affect BES, Messaging API connectivity problems between BES and Exchange, Server Routing Protocol connectivity, calendar and email synchronization, attachment server failures, and enterprise device activation.

As Jayaram Bhat, Zenprise's CEO, observes, "No single IT administrator can monitor every potential issue that can affect a BlackBerry enterprise deployment. Zenprise gives enterprise customers at all IT staff levels, from the Help desk to the mobile administrator, the ability to proactively identify and resolve user issues."

—Lavon Peters

Silver: REDFLY Mobile Companion
Celio Technology
www.celiocorp.com

Why it won: The cost-effective REDFLY Mobile Companion lets mobile IT pros use smartphones as their primary computing devices while on the go, saving both time and money in a market where both are tight.

Bronze: Amazon Kindle
Amazon.com
www.amazon.com

Why it won: Amazon Kindle, a completely wireless portable reading device, lets users download books, blogs, magazines, and newspapers. IT pros can keep up on technology from anywhere in the world.

Networking Winners

Gold: Engineer's Toolset
SolarWinds
www.solarwinds.com

Why it won: The tools in the Engineer's Toolset cover a broad spectrum of functionality but give you exactly what you need, exactly when you need it. There's something in the kit for everyone, and it's priced attractively.



If you're like most IT pros, you're constantly on the prowl for those perfect little utilities that can dramatically improve certain aspects of your network-maintenance duties. You've probably assembled your own toolkit full of these perfect tools. Maybe you even have a portable USB drive full of them and carry the device from site to site. But what if you don't have time to scour the Web for tools or organize the ones you've found for easy use?

SolarWinds' **Engineer's Toolset** is a collection of 49 network-engineering utilities that let you quickly address virtually every network-engineering challenge you can think of, from configuration management, network discovery and mapping, and fault management to bandwidth and network performance monitoring. Version 9.0 of the Engineer's Toolset introduces the first true real-time NetFlow analysis tool, letting you rapidly troubleshoot network traffic problems from your desktop.

I spoke with Network Operations Manager Greg English about the benefit of the Engineer's Toolset to his environment. "We're a Cisco shop, and my network has more than 25,000 devices spread across many states," English said. "The Engineer's Toolset has a number of tools geared specifically for Cisco equipment. Many of the tools can be found elsewhere as standalone utilities or as part of another package or even as freeware, but SolarWinds has bundled them together in a useful toolbar. I know the tools

are up-to-date, virus-free, and right at my fingertips when I need them." English also values the fact that all the tools are aware of the other tools in the toolset and will invoke one another when necessary. "I don't have to remember where I've stored each tool and what it's called."

—Jason Bovberg

Silver: Observer
Network Instruments
www.networkinstruments.com

Why it won: Our editors value Network Instruments' **Observer** as a ground-up, end-to-end networking-monitoring solution from a company that's always at the bleeding edge of the latest networking technologies and features, such as 10GbE and IPv6.

Bronze: OmniPeek
WildPackets
www.wildpackets.com

Why it won: WildPackets' impressive **OmniPeek** family of products gives you real-time visibility into every part of your network—from a single interface. Also, WildPackets recognizes the benefit of statistical and packet monitoring working together.

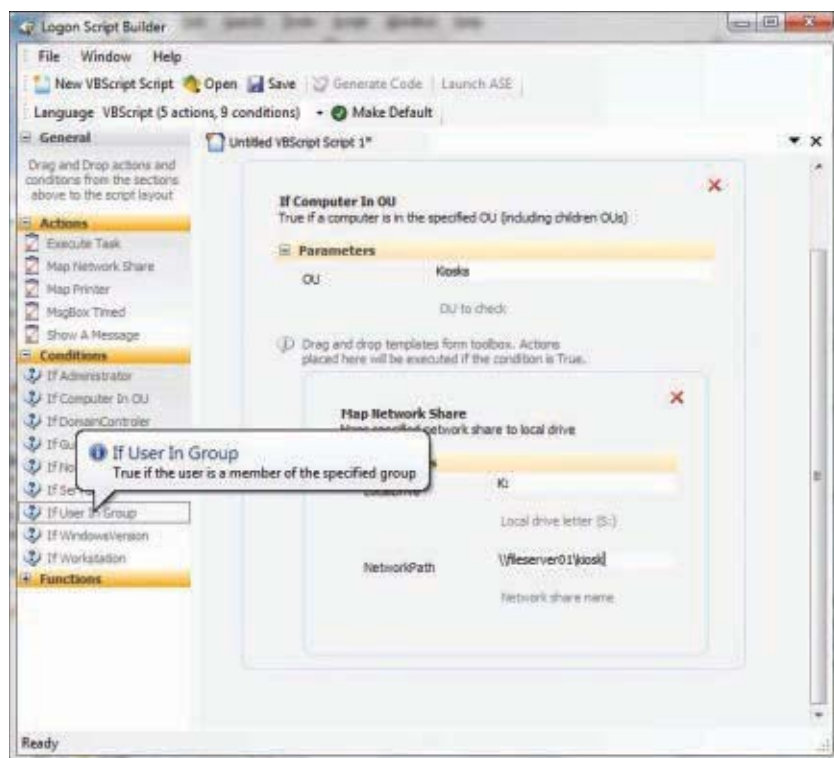
Scripting Winners

Gold: Admin Script Editor
iTripoli
www.adminscripteditor.com

Why it won: Busy Windows systems administrators can use scripts to save time, but trying to write them can be frustrating when you're new to scripting. Admin Script Editor helps turn that frustration into success.



In today's fast-paced business world, employees are often asked to take on more responsibilities. To make time for those new jobs, administrators can use scripts to automate the repetitive, time-consuming tasks they currently perform. However, writing scripts is new to many administrators, and having the right tool for the job can be the



difference between frustration and success. One extremely helpful tool is iTripoli's **Admin Script Editor (ASE)**.

Designed for Windows administrators, ASE supports the scripting languages they're likely to use, including batch, VBScript, KiXtart, and Windows PowerShell. Point-and-click code-generation tools—such as the WMI Wizard, ADSI Wizard, Logon Script Builder, and Database Wizard—make it easy for novice script writers to create scripts. More experienced users will find such features as ScriptBits (a repository for reusable code snippets), Advanced Query Builder (which helps build complex database queries), and Script Packager (which turns scripts into executable packages) useful.

Script Packager is a feature that Chang Lu, a senior systems administrator of Windows platforms, has found very helpful. "I like Admin Script Editor because it lets me package VBScript, JScript, batch, Windows Script file (.wsf), AutoIt, KiXtart, and other scripts," notes Chang. "In fact, I even packaged several HTAs and distributed them as programs. In the executable file, you can include such information as the version, description, company, and comments, just like you find in other types of programs."

—Karen Bemowski

Silver: PrimalScript 2007
SAPIEN Technologies
www.sapien.com

Why it won: Although SAPIEN Technologies' PrimalScript has been around for two decades, the company isn't resting on its laurels. PrimalScript 2007's new customizable UI and an ActiveX Data Objects wizard are among the improvements in the newest version.

Bronze: UltraEdit
IDM Computer Solutions
www.ultraedit.com

Why it won: Administrators who are jacks-of-all-trades will find UltraEdit's environments as versatile as they are. UltraEdit offers preconfigured and customizable environments for automating a systems administration task with a VBScript script,

editing a Web page, creating a Visual Basic project, or performing some other task.

Security Winners

Gold: Astaro Security Gateway
Astaro
www.astaro.com

Why it won: Web filtering has taken on increased importance as attacks on business networks have expanded from viruses in email attachments to phishing attempts embedded in Web sites. Astaro Security Gateway addresses these and other Internet threats and is easy to configure and reasonably priced.



The appeal of a Unified Threat Management appliance is obvious. What could be more attractive to a security administrator than comprehensive protection from multiple Internet-borne threats in one easy-to-manage box? These days, users who happen to visit the wrong Web site at the wrong time can easily have their identity stolen or can unknowingly download a virus just as if they had opened an infected email attachment. To the standard core gateway features of firewall, VPN, and intrusion prevention, **Astaro Security Gateway** adds Web URL filtering and malware detection; email antispy, antivirus, and antiphishing capabilities; and email encryption.

Astaro Security Gateway impressed one of our product reviewers. In his review "Astaro Security Gateway 220" (December 2007, InstantDoc ID 97266), John Green summarized the product's strong points as follows: "Broad feature set includes email encryption and signing, VPN, firewall, and antivirus; setup is easy, with many configuration options;



Web-based administrative interface is very responsive; product is available both as an appliance and as software; licensing is favorable, including free use for as many as 10 IP addresses in home environment."

The most recent version of the Astaro Security Gateway software, released in December 2007, features a new HTTP proxy engine that boosts performance and provides other improvements. The product can also be deployed as a virtual appliance running on VMware ESX Server. The feature set, flexibility, and configurability of this perimeter security appliance make it our pick for security product of the year.

—Renee Munshi

Silver: Catbird V-Agent
Catbird Networks
www.catbird.com

Why it won: Security for mixed physical and virtual assets is becoming a top priority for IT pros, and **Catbird V-Agent** is one of the best solutions available. It also helps handle complex compliance and auditing requirements for virtual machines.

Bronze: OmniAccess 3500 Nonstop Laptop Guardian
Alcatel-Lucent
www.alcatel.com

Why it won: As the workforce becomes ever more mobile, managing and securing laptops can be—and often is—a full-time job. The Alcatel-Lucent **OmniAccess 3500 Nonstop Laptop Guardian** gives you the tools you need to track and manage mobile assets with ease.

Storage Winners

Gold: RamSan-500
Texas Memory Systems
www.superssd.com

Why it won: The RamSan-500 makes the jump into solid-state-disk technology, providing the most storage capacity for the best price.



In the past, storage has focused on DAS, NAS, and SANs (including iSCSI SANs). But the latest advancement in storage technology, solid state disk (SSD), provides many advantages over those options. Because no rotation is involved, there are no moving parts and data access is faster—SSD access times range from 10 to 15 microseconds, which is 250 times as fast as hard disk drives. The lack of moving parts also means increased reliability, and SSDs use less power than other storage options. Texas Memory Systems' **RamSan-500** provides all these advantages and is one of the best SSDs on the market today.

The RamSan-500 provides up to 2TB of storage, with as many as 100,000 I/O operations per second (IOPS) sustained random reads, 10,000 IOPS sustained random writes, and 2GBps of sustained random read/write bandwidth. Texas Memory Systems notes that "compared to a similar capacity high-end hard disk-based RAID system, the RamSan-500 can deliver in excess of 16 times the performance while using 50 percent less power." In addition, the RamSan-500 costs less than competing products; you get all these bells and whistles for a price similar to enterprise RAID storage. *Windows IT Pro* Technical Director Michael Otey prefers the RamSan-500 to

BiTMICRO's similar product because of the RamSan's price and capacity.

—Lavon Peters

Silver: Dell EqualLogic PS5000E
Dell EqualLogic
www.dell.com/equallogic

Why it won: The **Dell EqualLogic PS5000E** iSCSI array provides cost-effective capacity, scalability, and optimal performance for common business applications.

Bronze: E-Disk Altima ATA-133
BiTMICRO
www.bitmicro.com

Why it won: The **E-Disk Altima ATA-133** provides huge storage capacities in a standard disk drive form factor.

SharePoint Winners

Gold: File Migrator for SharePoint
Quest Software
www.quest.com

Why it won: As companies flock to Microsoft's SharePoint collaboration platform, they face having to move massive quantities of information from their file share infrastructure into SharePoint. File Migrator for SharePoint provides the best solution to that problem.



Businesses have long used file shares to store important company information, but in today's highly collaborative business environments, information workers increasingly need functionality that file shares don't provide, such as version history, content approval, workflow, offline access, and content management. Microsoft's SharePoint collaboration platform provides a robust solution for these companies, but they still face a major stumbling block: the complexity of moving all that data into a SharePoint environment. SharePoint provides no help for doing that job. But Quest Software's **File Migrator for SharePoint** does.

Doug Davis, director of product management for Quest, says people are definitely buying into the concept of SharePoint as the "next-generation file share." With File



EDITORS' BEST

Migrator for SharePoint, companies don't have to blindly move content into a SharePoint repository.

"File Migrator lets you schedule and execute bulk file migrations, cleanse and filter data as you move it, and structure the data to fit your needs," Davis said. "You can add metadata on top of it to classify and categorize it. This categorization and classification of data is one of the crucial components of why people want to move to SharePoint. Having that in an automated migration tool is extremely valuable." We agree, and File Migrator for SharePoint gets our Editors' Best award for the top SharePoint product.

—Gayle Rodcay

Silver: DocAve 4.5 Backup and Recovery for SharePoint AvePoint
www.avepoint.com

Why it won: A comprehensive backup system is essential for protecting an organization's valuable SharePoint content. **DocAve 4.5 Backup and Recovery for SharePoint** offers granular, real-time backup and on-demand restore capabilities for your entire SharePoint environment.

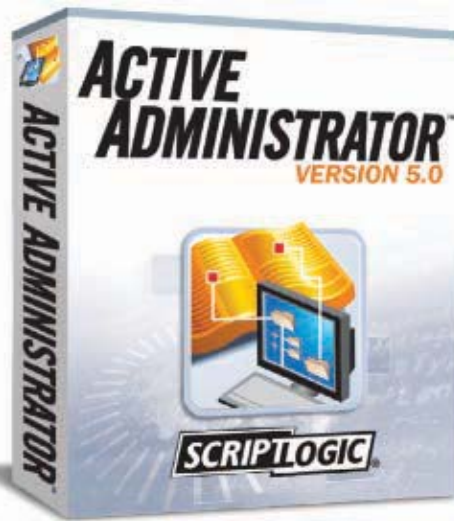
Bronze: Colligo Contributor Pro for SharePoint Colligo Networks
www.colligo.com

Why it won: As the mobile workforce continues to grow, the ability to collaborate both online and offline becomes more and more important. **Colligo Contributor for SharePoint** lets mobile users bring the SharePoint environment to their desktops, letting them easily access, modify, and create SharePoint content through familiar interfaces.

Systems Management Winners

Gold: Active Administrator ScriptLogic
www.scriptlogic.com

Why it won: Managing AD and Group Policy can be an onerous task, but ScriptLogic's Active Administrator steps in to lessen



the load. The product includes a host of features, but the streamlined UI, helpful support, and overall ease of use make Active Administrator a clear winner.



AD and Group Policy are joined at the hip, so to speak, so it's no surprise that vendors offer tools to manage both. What might be surprising, though, is why one product in the market, ScriptLogic's **Active Administrator**, stands out: for its usability. As any admin knows, the gap between acquiring a tool and actually using it productively is often a bottomless crevasse—enthusiasm cools if a tool takes too much effort to use.

In his November 2007 comparative review of Group Policy management tools ("3 Tools to Manage Group Policy," InstantDoc ID 97228), *Windows IT Pro* contributing editor Eric Rux tested NetPro, NetIQ, and ScriptLogic solutions. He concluded that "ScriptLogic's Active Administrator had the best look and feel, was the most intuitive, and includes extra features to help manage Group Policy."

Adds Senior Systems Engineer Tory Skyers, "You can have this product installed and truly functional in less than 30 minutes, no exaggeration." Ease of use translated to a quick response when an administrator deleted a high-level executive's ad account by accident. "The Help desk alerted us that the VIP was having a problem, and within a few minutes we knew who, when, and from where it was deleted and had the object (including passwords) restored," Skyers said. "About the only addition I can see a need for is delegation within the product itself (i.e., levels of access to make changes to program settings); other than that, I can't

really think of much I'd change. This product has paid for itself many times over in admin time saved alone, not to mention Group Policy backups, GPO modeling, and super-detailed permission delegation and templating. We've gotten so used to having it around that I honestly have no idea what we would do without it."

—Caroline Marwitz

Silver: ActiveRoles Server Quest Software
www.quest.com

Why it won: ActiveRoles Server offers role-based management of AD, letting admins delegate tasks while maintaining security and control. Especially useful for overworked IT pros is its Web interface and automated user provisioning process.

Bronze: AppManager NetIQ
www.netiq.com

Why it won: Designed for easy deployment, AppManager's big appeal is its ability to be customized. Its visual mapping of IT resources helps when prioritizing admin responses to system problems.

Training and Certification Winners

Gold: KSource Online Learning AppDev
www.appdev.com

Why it won: A high-quality on-demand training program, combined with a flexible online delivery method, makes KSource Online Learning the best online training and certification program currently available.



Keeping IT skills current is difficult for many IT pros to squeeze into their overbooked schedules, but it's made easier by vendors that provide training and certification courses, DVDs, and other materials. One of the most innovative programs we've seen is **KSource Online Learning**.

You can choose a hosted version of KSource (accessible over the Internet) or

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install a local version on your network. Both options give you 24 x 7 access to educational content in dozens of content areas, including such popular topics as Microsoft Visual Studio 2008, Microsoft Office SharePoint Server 2007, and Silverlight 2.

IT Manager Dennis Podgorski has used AppDev products and can attest to the quality of the training programs. "I checked out the AppDev Web site and saw that AppDev's training products weren't that expensive, and I liked that I could sample the products before purchasing," says Podgorski. "I considered attending an offsite training program as an alternative to AppDev's training products, but that just wasn't an option in our small work environment. After using both the SQL Server 2005 and Java training programs, I managed to learn what I needed to—all without having to be away from office, and it didn't cost me my entire training budget to do it."

—Jeff James

Silver: MCSE Boot Camp
Mountain View Systems
www.mntview.com

Why it won: High-quality content and affordable program options make Mountain View Systems' MCSE Boot Camp an excellent choice for IT pros looking to update their skills.

Bronze: MCSE 2003 Exam
Preparation
Transcender
www.transcender.com

Why it won: With seven exams and specialized information on messaging and security, Transcender's MCSE 2003 Exam

Preparation is one of the best MCSE training programs currently available.

Virtualization Winners

Gold: Parallels
Virtuozzo
Containers
Parallels
www.parallels.com

Why it won: A unique OS-level virtualization approach makes Parallels Virtuozzo Containers a better (and cheaper) solution than other virtualization offerings.



Although the likes of Citrix, VMware, and Microsoft dominate the virtualization headlines, that hasn't stopped Parallels from becoming a significant player in the virtualization arena. Parallels excels at looking at an existing market from a new angle, and Parallels Virtuozzo Containers is a perfect example of that philosophy.

Unlike hypervisor-based products such as VMware ESX Server and Microsoft Hyper-V, Virtuozzo Containers takes an OS-level virtualization approach. Running on top of the host OS, this approach doesn't virtualize hardware, instead relying on the host OS's hardware and device drivers. Because fewer assets are virtualized, Virtuozzo Containers can support more virtual environments on a system than hypervisor-based solutions can. It might not be the right approach for every situation, but the performance and density of virtual environments makes this product a compelling choice for many businesses.

"Speed is the difference between profit and loss in the financial business," says Arup Das, chief technology officer of Asset Management Company. "We run 80,000 SQL transactions over a four-hour period on Parallels Virtuozzo Containers, so superior performance and the ability to handle high I/O workloads is critical."

Das points to the performance benefits that this virtualization approach has over

competing solutions. "We were particularly impressed with Parallels Virtuozzo Containers, as OS virtualization avoids the poor performance caused by double caching, which is associated with virtualizing the hardware," says Das. "With hardware virtualization [solutions] like VMware, each VM has to write to both itself and the physical server, which can really erode the efficiency being gained. This is particularly important to us, as we wanted to virtualize Microsoft SQL Server and Oracle databases and needed to avoid degradation in I/O."

—Jeff James

Silver: VMware ThinApp
VMware
www.vmware.com

Why it won: ThinApp's name changed to VMware ThinApp in the midst of our judging, but everything that makes this a great application virtualization product has remained the same. If you need an easy, no-fuss way to virtualize applications, you should take a close look at ThinApp.

Bronze: everRun VM
Marathon Technologies
www.marthontechologies.com

Why it won: Do you need to protect your virtual infrastructure from data loss and catastrophic outages? everRun VM does that—and more. It's easy to use and easy to deploy, and is bundled with top-notch support options.



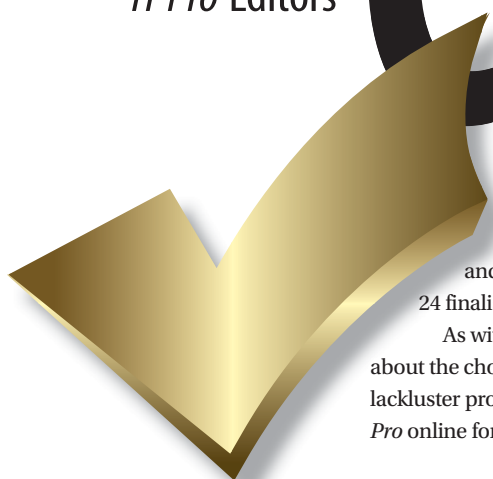
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Windows IT Pro COMMUNITY CHOICE

Favorite
products from
our readers

by the *Windows
IT Pro* Editors



In contrast to all the other award categories in this issue, the *Windows IT Pro* Community Choice Awards are selected by you, the readers of *Windows IT Pro* and *SQL Server Magazine*. Hundreds of *Windows IT Pro* Web site visitors and online forum members voted in these awards, which eventually resulted in 24 finalists and winners in eight categories.

As with all the other awards presented in this issue, we want to hear what you think about the choices made here. Do you think an important product was overlooked, or that a lackluster product was given accolades that it doesn't deserve? Please visit the *Windows IT Pro* online forums (www.windowsitpro.com/forums) and let us know what you think!

Light Database Tools

Winner: Microsoft SQL Server 2005 Express
Microsoft
www.microsoft.com

Why it won: This limited-feature variant of Microsoft SQL Server 2005 is long on value as well as capability: It's free! You'll be amazed at how much you can accomplish with SQL Server 2005 Express—it's an excellent choice for someone whose database needs are modest.



In a world where weighty IT applications such as SQL Server 2005 command hefty prices, it's nice to find a product that's long on capability but light on your IT budget. You can't beat free as far as pricing goes, a lesson not lost on Microsoft when it created SQL Server 2005 Express Edition.

Granted, SQL Server Express doesn't offer as many features as its costly counterpart does. In his Web-exclusive article "Contenders for the Express Database Crown" (www.sqlmag.com, InstantDoc ID 94459), *Windows IT Pro* Technical Director Michael Otey extols the virtues of SQL Server Express over some of its light-duty database competitors.

"SQL Server Express provides high levels of performance and deep CLR and XML integration. If, like most developers, you're using Microsoft .NET technologies and you're developing for the Windows platform that makes up the bulk of the desktop market, SQL Server Express is a great choice because its integration with the Visual Studio 2005 development product is unequaled," says Otey. "SQL Server Express Advanced Edition also includes the SQL Server Management Studio Express (SSMSE) management GUI and support for SQL Server 2005 Reporting Services, a component that has no equivalent in the other lightweight database products."

Other SQL Server Express features are a boon for helping DBAs get new projects up and running quickly. Microsoft includes 10 database schemas that take the guesswork out of creating small database projects, including ones for e-commerce, product catalogs, nonprofit groups, and contact management. Combine that with a wealth of sample databases, tutorials, online help, and other free training tools, and SQL Server Express emerges as a powerful entry-to midlevel database tool in its own right.

—Jeff James

Silver: MySQL 5.0

MySQL AB

www.mysql.com

Bronze: Microsoft SQL Server

Compact 3.5

Microsoft

www.microsoft.com

Antispam Solution for Business

Winner: McAfee Total Protection Service

McAfee

www.mcafee.com

Why it won: McAfee Total Protection Service offers professional antispam and antivirus protection for your corporate email, all without requiring you to install or manage anything locally. Did we mention that the McAfee Total Protection Service eats spam for lunch?



Our modern lives are filled with annoyances, few of which are more frustrating and time-consuming than email spam. Although individuals might become extremely annoyed by the deluge of spam they receive, the anguish increases exponentially when you consider the plight of IT pros. How do you keep your infrastructure—and especially your Exchange servers—from collapsing under the weight of millions of spam messages?

If you're like many of those who voted in the Antispam Solution for Business award category, you might have already selected **McAfee Total Protection Service**. As a hosted service—much like Google's Postini and Microsoft FrontBridge—McAfee's

solution doesn't require software to be installed, nor does it eat up valuable space and resources running on internal servers. McAfee Total Protection Service also blocks spyware and viruses, provides a Web-based management console, and helps your users surf the Web with confidence using McAfee SiteAdvisor. It also happens to kill spam dead, which is certainly one of the reasons that *Windows IT Pro* readers voted it the best product in our Antispam Solution for Business category.

—Jeff James

Silver: Perimeter Manager

Enterprise Edition

Postini

www.postini.com

Bronze: Symantec Mail Security

8200 Series

Symantec

www.symantec.com

Disk Imaging Software

Winner: Symantec Ghost Solution Suite

Symantec

www.symantec.com

Why it won: Symantec Ghost has been updated and improved more than a dozen times, and it shows: Other disk imaging deployment products find it hard to compete with the Symantec Ghost Solution Suite in its price range, and voters agree that Ghost can't be beat.



Depending on the size of your infrastructure, software deployment can be relatively painless, or it can be time-consuming. Although small shops might be able to rely on free tools such as Microsoft's deployment toolkit, larger organizations with more complex business IT needs often require something more robust—and expensive. In "Disk Imaging Software for SMBs" (February 2007, InstantDoc ID 94593), Joel Barker explains that the right deployment tool for your needs often depends on the size of the organization.

"Larger organizations can justify the cost of SMS and similar enterprise-class management servers, but small IT departments have generally been priced out of any

kind of deployment tool beyond a technician with a custom image on a DVD," says Barker. "**Symantec Ghost Solution Suite** is an affordable product that offers a set of features similar to SMS as well as the ability to launch and manage desktop backup routines For midsized and large companies, Symantec offers a panoply of features at an inviting price."

—Jeff James

Silver: Acronis True Image Echo Workstation with Acronis Universal Restore

Acronis

www.acronis.com

Bronze: Image for Windows

TeraByte Unlimited

www.terabyteunlimited.com

Backup and Recovery Appliances

Winner: HP StorageWorks D2D Backup System

HP

www.hp.com

Why it won: HP hits the sweet spot for disk-based backup for small-to-midsized businesses with a product that makes automated backup and recovery easy and affordable and works with your existing tape-backup process.



The **HP StorageWorks D2D Backup System** takes aim at two major pain points for small-business IT: keeping the network backed up consistently and being able to recover data quickly.

The product gives SMBs the benefits of automated disk-to-disk (D2D) backup at a budget-friendly price of well under \$3,000. The D2D Backup System is simple to set up, provides an easy-to-use Web-based administration interface, and performs quickly and reliably. It's also compatible with existing tape-backup tools, such as NTBackup and Symantec Backup Exec.

Neil Fraser of DataLogistics says a reduction in backup time and improved backup consistency are two of the biggest benefits his company has seen with the StorageWorks D2D Backup System. "With the D2D product, our backup times have dropped

significantly, and we no longer experience morning network lag because of the backups running,” Fraser says the StorageWorks D2D product also saved money because DataLogistics could keep its existing tape-backup system.

Like Fraser, Scott Shaw of Covente gives the product a thumbs-up for performing backups reliably with little IT intervention. “We now have consistent and timely backups without interfering with our day-to-day IT operations,” he says. “The virtual library ... allows us to keep a three-week rotation without ever needing to change tapes.”

—Anne Grubb

Silver: SonicWALL Continuous Data Protection Series
SonicWALL
www.sonicwall.com
Bronze: StoreVault S500
NetApp
www.storevault.com

Exchange Server Monitoring Tools

Winner: Microsoft System Center Operations Manager 2007
Microsoft
www.microsoft.com

Why it won: Its preemptive, IT service-based approach to monitoring, plus management packs that incorporate Microsoft’s extensive knowledge of Exchange Server and Windows, make this product a standout in its class.



If your business depends on keeping a network of Exchange servers up and running, you’re probably already using some type of Microsoft Exchange Server management tool. The latest iteration of Microsoft’s enterprise systems management product, **System Center Operations Manager 2007**, is notable for its use of IT service models, which manage a group of related

components (e.g., server, application, Active Directory) together as one IT service. This feature, combined with management packs (for Exchange Server 2007 and Exchange Server 2003), enable proactive monitoring and alerting based on Microsoft’s in-depth knowledge of Exchange.

For companies that use the System Center product suite, Ops Manager 2007 with the Exchange management pack is a natural choice for Exchange monitoring. Todd Slan of Total Wine & More points to this integration as a key benefit of using the product. “This was an outstanding complement to the rest of the suite,” says Slan. “The ability to proactively monitor and take necessary action before user access and performance [are affected] has been a big win in providing the greatest level of service and uptime to our end users.”

Slan says that the ability to monitor a clustered Exchange environment has been the most useful Ops Manager feature for Total Wine. “Proactive monitoring of our HT/CAS [Hub Transport/Client Access] cluster and CCR [cluster continuous replication] mailbox

Event Log and System Health Monitoring



EventSentry is an award-winning, affordable, feature-rich, proactive, real-time monitoring solution that watches over your servers, workstations, and network devices to ensure maximum availability and that also helps with compliance requirements.

Some of the features of EventSentry include:

- Real-Time Event Log Monitoring & Consolidation
- Log File Monitoring (e.g. IIS, DHCP)
- Performance Monitoring
- Disk Space, Service and File Checksum Monitoring
- Heartbeat Monitoring & Syslog Integration
- Software & Hardware Monitoring / Inventory
- Process, Logon & Print Tracking
- Environment Monitoring
- Open-Source Web Reports
- Satisfaction of Compliance Requirements

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www.eventsentry.com



cluster is key to maintaining the highest level of availability possible for our end users.”

—Anne Grubb

Silver: PROMODAG Reports for Microsoft Exchange Server
PROMODAG

www.promodag.com

Bronze: Quest MessageStats and Spotlight on Exchange
Quest Software
www.quest.com

Uninterruptible Power Supplies

Winner: Smart-UPS XL Series
American Power Conversion
www.apc.com

Why it won: APC has been producing uninterruptible power supplies (UPSs) for longer than just about anyone, and IT pros have come to rely on the vendor for some of the best UPS products currently available. APC hardware is probably sitting in your data center as you read this, helping keep vital servers and appliances up and running.



Some IT products are more glamorous than others. Virtualization, smart phones, big-screen LCDs, and speedy CPUs are the attention-grabbing supermodels of the IT product universe, but the venerable uninterruptible power supply (UPS) is an underappreciated stalwart of business IT. Like the clock-punching janitors and maintenance staff that truly keep an office building running, the UPS works tirelessly—365 days a year, 24 × 7—to keep vital systems up and running.

American Power Conversion (APC) has been making UPS products for almost 30 years. APC's dominance in the UPS market is led by products such as the **Smart-UPS XL Series**, a line of products that range in price from \$450 to \$1,800. Battery life varies from 3.5 to almost 9 hours, and you can add battery packs to push operational times beyond 24 hours. APC's built-in PowerChute UPS software helps you manage your UPS environment as you see fit, and an internal accessory slot (dubbed the SmartSlot) allows for additional expansion.

—Jeff James

Silver: Smart-UPS SC Series
American Power Conversion
www.apc.com

Bronze: Back-UPS RS Series
American Power Conversion
www.apc.com

Laptop Synchronization Tools

Winner: PCSync
Laplink Software
www.laplink.com

Why it won: Rock-solid reliability and an impressive number of file synchronization features help make PCSync a must for IT pros tasked with keeping a small army of desktops and mobile devices in lockstep.



An increasingly mobile workforce has multiplied the challenges that IT pros grapple with every day. Keeping files synchronized and updated between a company desktop and mobile devices such as laptops, smartphones, and PDAs is one job that must be done without fail if end users are to be able to do their work. Laplink Software's **PCSync** makes synchronization between devices easy.

This helpful tool specializes in simplifying file synchronization and data transfer between PCs. Using a USB cable, serial cable, or a wired or wireless network, you can synchronize, merge, back up, and copy files from different PCs. You can also schedule file synchronization jobs to automatically synchronize multiple files and folders at given intervals. Laplink touts its SmartXChange synchronization definition and tracking tool as a way to make PC-to-PC transfers even more efficient and painless. Our voters agreed, helping PCSync garner the most votes to emerge as the winner of the category.

—Jeff James

Silver: Sync Logic
IPWorx.com
www.ipworx.com

Bronze: Beyond Compare
Scooter Software
www.scootersoftware.com

KVM over IP Switches

Winner: OmniView SMB KVM-over-IP Switch F1DP116G
Belkin International
www.belkin.com

Why it won: A comprehensive feature set and a competitive price help make the OmniView SMB KVM-over-IP switch hard to beat in this category.

If you have a data center packed with dozens of servers and appliances, how do you manage all of them without a tangled mess of monitors, keyboards, and mouse devices? Using a KVM switch is a good answer, and Belkin's solution to the problem seems better than most. The Belkin **OmniView SMB KVM-over-IP Switch F1DP116G** includes native CAT5 support and can be used to manage up to 248 servers (via daisy-chaining) from a single console.

“Our IT department considered several KVM-over-IP products for our needs, but the Belkin offered the best performance for the money,” says Darrell Bradshaw, marketing manager at Transource, a computer reseller that specializes in servicing contracts from the federal government. “The installation was straightforward, and the browser-based interface [used to access different servers] is easy to use. We've been using the product for about eight months and haven't had any problems or issues to report.” Bradshaw says that his company also uses a fair amount of Avocent KVM hardware, but stressed that the cost of the OmniView SMB switch was a key factor in making that purchase.

Combine competitive pricing with advanced features, such as BIOS-level access to connected servers, 128-bit SSL encryption, and support for serial devices, and the OmniView SMB switch emerges as the most popular product in this award category.

—Jeff James

Silver: OmniView Remote IP Device with Virtual Media F1DE101H
Belkin International
www.belkin.com

Bronze: APC 16-Port IP KVM
American Power Conversion
www.apc.com



InstantDoc ID 99548

Windows IT Pro Congratulates **Microsoft**



Microsoft® SQL Server® 2005 Express Edition

Gold Winner

Light Database Tools Category

Microsoft® SQL Server® 2005 Compact Edition

Bronze Winner

Light Database Tools Category

Learn more about SQL Server here:

www.microsoft.com/sql

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Mobile and
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Awards Recognize the **BEST of TECH•ED** 2008 IT Professionals Conference

Exceptional IT
products from
Microsoft
partners

by the *Windows
IT Pro* Editors

[Editor's Note: Unlike past years, this year's TechEd was split into two events. TechEd Developers 2008 (held June 3–6) focused on the development side of business IT, and TechEd IT Professionals (held June 10–13) centered on content more useful for IT pros and network administrators. We present the TechEd IT Professionals winners in this issue of *Windows IT Pro*; for the Best of TechEd Developers 2008 awards, see the August issue of *SQL Server Magazine*.]

The Best of TechEd awards, produced by *Windows IT Pro* and *SQL Server Magazine*, recognize innovative products and services offered by Microsoft partners that exhibited at TechEd IT Professionals 2008.

Our judges were *Windows IT Pro* and *SQL Server Magazine* editors, who winnowed the 228 submissions to 29 finalists. On site in Orlando, Technical Director Michael Otey, Executive Editor Amy Eisenberg, and Senior Editors Jeff James and Sheila Molnar attended presentations by all the finalists to determine the winners in all 11 categories, including the Breakthrough Product category for the most outstanding product of the show. The judges evaluated the entries according to three criteria: strategic importance to the market, competitive advantage, and value to customers. And, like last year, show attendees voted to determine the winner of the Attendees' Pick award.

Best Messaging Product

OneServer Virtual Edition



Our Best Messaging Product winner is Azaleos' **OneServer Virtual Edition**, a one-stop virtual infrastructure solution for Microsoft Exchange 2007. Some IT pros have been reluctant to virtualize their Exchange servers, but the maturation and stability of virtualization technology—combined with powerful and inexpensive hardware—take away previous reasons for concern. According to Azaleos, a typical Exchange installation requires four physical servers for the three primary server roles. With OneServer Virtual Edition, IT pros can reduce that hardware requirement to two servers and one storage device. Combined with Azaleos OneStop managed services, OneServer Virtual Edition can reduce hardware and power costs, improve system availability, streamline deployment, and offer improved performance for Exchange 2007 installations.

—Jeff James

Best Business Intelligence Product

OfficeWriter



Microsoft Office and Microsoft Excel are two of the most popular business applications available today. So why not leverage those applications to meet your business intelligence (BI) needs? SoftArtisans answered that question with its excellent **OfficeWriter** application, which does exactly that. OfficeWriter can connect to SQL Server Analysis Services and other databases and deliver fully functional Excel and Word documents over the Web. One really cool feature of OfficeWriter is its ability to preserve all of the original document functionality, such as macros and pivot tables. Want more? OfficeWriter offers bidirectional data updating (a feature that lets end users update data sources through Excel or Word) and supports .NET Framework 2.0. If you're looking to leverage your existing office applications to meet your BI needs, OfficeWriter might fit the bill.

—Amy Eisenberg

Best SharePoint Product

DocAve Software Platform



SharePoint use is exploding, and administrators tasked with managing it need help. AvePoint's **DocAve Software Platform** provides an integrated environment for SharePoint management, disaster recovery, and real-time backup. A discovery tool helps you find SharePoint installations in your enterprise, and a consistent, Web-based management GUI makes managing all the product's features a snap. You can install DocAve Software Platform as a cohesive system or deploy each module individually. The administration tools make it easy to replicate and administer your content, and a compliance module can help you ensure that your SharePoint infrastructure adheres to compliance and auditing regulations. Finally, user and content migration tools simplify the process of moving people and assets into your SharePoint infrastructure.

—Jeff James

Best Hardware, Networking, or Storage Product

Strangeloop WS1000 Web Services Accelerator



Cloud computing and hosted services have been getting a lot of attention lately, a situation that translates into greater demands being placed on Web services. Accelerating the performance of those Web services is the focus of the **Strangeloop WS1000 Web Services Accelerator**, an appliance that you install between a Web server and the Web applications that are placing demand on that server. The WS1000 uses a combination of hardware and smart software algorithms that can dramatically reduce the load on Web servers and increase the performance of Web services by an order of magnitude. The Strangeloop WS1000's advanced caching technologies also enable plug-and-play performance optimization without requiring any changes to the Web services application code.

—Michael Otey

Best Database Administration Product

SQL diagnostic manager



In the Database Administration category, our Best of TechEd award goes to Idera's **SQL diagnostic manager**. SQL diagnostic manager lets you monitor SQL Server performance as well as diagnose and analyze performance problems. The product can record comprehensive performance histories of monitored servers, which enables the administrator to see trending and analysis of previous system problems. It also monitors more than 230 performance criteria, all of which you can organize, view, and analyze via a powerful command console. Combine that plethora of robust features with a speedy, agentless installation process, and SQL diagnostic manager makes database administration easier than ever.

—Michael Otey

Best Productivity and Collaboration Product

Colligo Contributor Pro for SharePoint



Giving users access to company information on the road is essential. **Colligo Contributor Pro** lets users access and edit SharePoint content offline as well as online. A handy Colligo add-in for Microsoft Office Outlook also makes publishing SharePoint content as easy as dragging and dropping an email from one screen location to another. Colligo Contributor Pro is easy to deploy, with a 5MB client, no required server installation, and full support for Windows SharePoint Services (WSS) 3.0, WSS 2.0, Microsoft Office SharePoint Server 2007, and Microsoft SharePoint Portal Server 2003, as well as integration with Outlook 2007 and 2003. This product also lets SharePoint administrators configure and set user permissions, support SharePoint clients in disparate physical locations, and even develop custom SharePoint clients by using the Colligo Contributor Software Development Kit. For all these reasons—and more—Colligo Contributor Pro is our winner in the Productivity and Collaboration category.

—Jeff James

Best Security Product

ScanMail for Microsoft Exchange



The winner in the security category is Trend Micro's **ScanMail for Microsoft Exchange**. ScanMail for Microsoft Exchange provides comprehensive email security, including antivirus, antispyware, and zero-day virus protection. In addition, ScanMail can stop spam and phishing threats and block inappropriate Web content. A recent survey by Osterman Research (commissioned by Trend Micro) interviewed more than a hundred IT professionals about the costs they incurred when deploying and managing messaging security solutions designed for Exchange environments. The survey revealed that ScanMail for Exchange provided the lowest cost of ownership for organizations with fewer than 2,500 seats. Combine that low cost of ownership with ScanMail's impressive feature set, and IT pros looking for email security would be well advised to give this product a look.

—Michael Otey

Best Virtualization Product

VMware Infrastructure 3



The winner in our Virtualization category is **VMware Infrastructure 3 (VI3)**. Virtualization is taking the IT world by storm, and VMware has been driving that change. Although vendors such as Citrix and Microsoft are hoping to chip away at its market-leading position, VMware is currently in the driver's seat. The VI3 suite is available in a variety of configurations and includes several products that can make your virtualized infrastructure more efficient. VMware Consolidated Backup, VMware Distributed Resource Scheduler, and VMware High Availability are just a few of the VI3 suite components that can drive improvements to efficiency and utilization while holding down costs. An optimized virtualization infrastructure lets IT pros dynamically provision and migrate resources through the enterprise to match changing business demands, and no virtualization product suite does that better than VI3.

—Jeff James

Best Systems Management and Operations Product

Athena



Athena by Odyssey Software is a management solution for Windows-based mobile devices that integrates into the Microsoft System Center management interface. With Athena, you can detect and catalog deployed mobile devices, monitor the status of connected assets, and deploy software updates and applications. Available feature packs let you incorporate additional features, such as asset reporting, software provisioning, security, and improved support, into your Athena environment. The product integrates with Microsoft Systems Management Server 2003 and System Center Configuration Manager 2007 to help IT pros more easily supervise, manage, monitor, and secure Windows Mobile infrastructures.

—Amy Eisenberg

Breakthrough Product

PowerGUI



With millions of downloads and robust support for many Microsoft applications, Windows PowerShell is one of the most popular tools to hit the IT industry in years. Its powerful scripting features give IT pros new ways to manage the IT infrastructure. And no product makes PowerShell easier to use than Quest Software's **PowerGUI**, a scripting and command shell platform. If you're an IT pro who isn't fond of scripting, or a VBScript expert who's not eager to learn a new scripting system, PowerGUI could be the tool you've been waiting for. PowerGUI provides point-and-click access to most PowerShell features and can convert VBScript expressions into their PowerShell equivalents. Combined with the VMware Infrastructure Toolkit and a few other tools, PowerGUI can also be used with PowerShell to manipulate VMware ESX Server virtual machines. All these features (and more) make PowerGUI the winner of our Breakthrough Product award.

—Jeff James

Attendees' Pick

Replicator for SharePoint



Unlike all the other award categories at TechEd, the Attendees' Pick award is chosen by TechEd attendees who voted for their favorite products. Dozens of products were chosen by popular vote, and the winner—Syntergy's **Replicator for SharePoint**—garnered the most votes to emerge victorious. Replicator is designed to help IT pros manage large SharePoint environments and is particularly helpful with the task of keeping

“Judges evaluated the entries according to three criteria: strategic importance to the market, competitive advantage, and value to customers.”

geographically diverse SharePoint installations and content synchronized and compatible. Replicator can create links between SharePoint servers, which can then use bidirectional data transfer to keep content and configuration consistent between them. Replicator can also keep users and group data synchronized between servers, replicate permissions, and perform dozens of other helpful SharePoint management tasks to relieve overworked administrators.

—Jeff James

InstantDoc ID 99545

PROBLEM:

Without access to a server, users can't access all features of their SoftGrid applications on the road.

SOLUTION:

Pre-load applications by converting an existing SoftGrid sequence to an .msi file and deploying that file by using Group Policy, SCCM, or any systems management tool.

WHAT YOU NEED:

An existing SoftGrid implementation; MSI Utility for Microsoft SoftGrid Application Virtualization; and the SoftGrid 4.2.1 client

SOLUTION STEPS:

1. Have a SoftGrid infrastructure already in place.
2. Get the MSI Utility for Microsoft SoftGrid Application Virtualization.
3. Make sure you have an updated SoftGrid 4.2.1 client running in Offline mode on your target system.
4. Convert an existing SoftGrid sequence to an .msi file.
5. Deploy the .msi file using Group Policy, SCCM, or any systems management tool.

DIFFICULTY:

Making SoftGrid Apps Work On the Road

by Jeremy Moskowitz | **Wrap SoftGrid sequences as MSI files**

Editor's note: This article is about Microsoft SoftGrid Application Virtualization, the product that was currently shipping at press time, and might not be valid for future editions of this product, known as Microsoft Application Virtualization.

I'm a big Microsoft SoftGrid Application Virtualization fan. With SoftGrid, I don't have to actually install applications directly on my client machines. Instead, I get the sweet ability to let users run applications that are on a server but use the client computer's horsepower—and I don't have to worry about the dirty job of handling software conflicts. Even if users have never used an application before, they just click an application's icon on the desktop or Start Menu and the application launches from the server—all the while, the application is never actually installed on the client machine.

Once you've set up SoftGrid on the server and clients (see "SoftGrid for Application Virtualization," September 2007, InstantDoc ID 96625) it elegantly distributes the application: First,

the SoftGrid client makes a request to the server, then the server streams as much of the application as the user needs at that moment. On the client, SoftGrid caches any part of an application that a user accesses. If a user has previously used an application, or even just part of an application, that portion comes from the cache, not the server. But if a user needs more of an application, say, Microsoft Word's Thesaurus, the SoftGrid client then automatically connects back to the server and downloads (and caches) just the bits it needs and makes the cached feature available for next time.

SoftGrid's a great solution for desktops, but what about laptops? If a user on the road wants to access Word's Thesaurus feature, but has never used it before, that user could have a little problem. Well, a big problem. In fact, depending on the application, your user could receive a terse message to close the application in two minutes or it will shut down. Ouch! Harsh! I'll show you some ways to avoid this problem and help your users get the most out of SoftGrid while on the road.

SoftGrid for Road Warriors

You have three options for helping users take advantage of SoftGrid on the road. Two unfortunately ask the user to do something (or to use an inelegant script). But the third

is more robust and the one we'll explore further. As you'll see, it lets you pre-load specific applications by using the software deployment infrastructure you already have, such as Group Policy, Microsoft System Center Configuration Manager (SCCM) 2007, or something else.

Option 1: Let your users do it. You can ask your users to try to use all the functionality in the office before they go, so they'll have what they need while on the road. This option fails the moment you get a phone call from the CIO asking why Microsoft Excel Pivot Tables won't run while she's using her laptop at 30,000 feet. Of course, if the CIO had used that particular feature while connected to the network, you wouldn't get the phone call, but obviously it's not ideal to rely on users in this way.

Option 2: Force the entire application into the cache. The SoftGrid client has a command-line switch that can force all of a particular application (or all applications a user has access to) into the cache before users take off for a trip. You could teach users to perform this step. Or, you could use a Group Policy script to force this to occur under certain creative conditions. (For instance, you could create and deploy a shutdown script that asks users which applications they want to take on the road with them; however, that's an exercise beyond the scope of this article.)

When you prepare an application for SoftGrid distribution, you have to "sequence" it (make it a streamable application from the original application media). Part of sequencing requires creating an Open Software Description (.osd) file. To tell the client to cache a specific application, you need to know the precise name of the .osd file that the client uses to pull information about the application from the server. The person who sequenced the application should be able to provide this for you (it's a property of the sequenced application).

With the .osd file name in hand, you can ensure, for example, that 100 percent of your Adobe Reader sequence will be loaded on the client. Ask the user to execute the following on that client (or make a script to do it):

```
sfttray.exe /load "Adobe Reader 7.0
7.0.8.218"
```

Or, alternatively, you can tell the SoftGrid client to force load all applications the user has access to by using this command:

```
sfttray.exe /loadall
```

However, note that the client cache size can't be exceeded. The cache size is a hard-coded limit that administrators declare on the SoftGrid client at client setup time. The default size is 2GB and is changeable only during client installation. Also note that after the cache fills up, the application that's currently streaming will stop streaming, then display a Launch Failed message.

Options 1 and 2 have drawbacks: Users still need a connection to the server to "get more." And it's still a manual or scripted process to either load additional pieces of the application or cache the application in its entirety.

It would be better if you could pre-load specific applications by using a technique you already use for other areas of software deployment. That would be Option 3.

Option 3: Deploy sequences wrapped up as Windows Installer applications to SoftGrid clients in offline mode. I'm a Group Policy geek. So I was disappointed that there was no way to deliver SoftGrid sequences via Group Policy. Well, that's changed. You can configure the newest SoftGrid client, SoftGrid Client 4.2.1, to work in a new mode called Offline mode. Then you can specially deploy sequences wrapped up as Windows Installer (.msi) applications. Upon deployment of these .msi files to SoftGrid client computers, 100 percent of the application is forced into the cache. This gives you the best of both worlds: You can deploy sequences using tools you love (Group Policy, SCCM 2007, LANDesk, or anything else that slings .msi files) and force specific applications into the computer's cache. With this approach, you don't have to leave the onus on users to *do* anything to ensure their applications are fully cached.

To Get Started

The magic of Option 3 begins with two components. Here's what you need to get started:

Component 1: The MSI Utility for Microsoft SoftGrid Application Virtualization. The MSI Utility is a tool that wraps up the

necessary SoftGrid application bits and puts them into an .msi file—all the bits, that is, except the .sft file. This file might be too big to fit inside an .msi file because it actually contains the application. We'll see how to perform this wrap-up of existing SoftGrid sequences in just a bit. Then, when you deploy the .msi application (using any tool you like), the installation doesn't actually install the application. Rather, the .msi installation is simply directed to fetch the .sft (the actual application sequence) file and stick it all in the local SoftGrid cache. (See the sidebar "Using the Softgrid SMS Connector," page 50, to see why you must use the MSI utility instead of the Softgrid SMS Connector.)

Component 2: The updated SoftGrid Client (at least 4.2.1) running in Offline mode. Just because you wrap up SoftGrid sequences as .msi files, and deploy them using Group Policy (or another method) doesn't mean that regular SoftGrid clients will know what to do when they receive the .msi package. To be able to run the .msi files you've created with the MSI tool for SoftGrid, you'll need to upgrade (or freshly install) SoftGrid Client (at least 4.2.1) over your client population for those clients you want to work in Offline mode.

SoftGrid Client (at least 4.2.1) is available at support.microsoft.com/kb/941408. A quick note to save you heartache: Be particularly careful that you're downloading at least the 4.2.1 client (as of press time the latest is 4.2.2.15) and not the 4.2.0 client, which is also confusingly located on the same Web page. I spent four or five hours pulling my hair out, only to find out I downloaded the wrong client.

Also note that the SoftGrid 4.5 beta Client (not on the same Web page, thankfully) won't accept .msi packages created using the MSI Utility. You must use at least 4.2.1 to perform the magic. A warning, though: If you upgrade your older SoftGrid Client to the newer SoftGrid Client (at least 4.2.1), the applications cache is flushed and all packages need to be redownloaded.

Force the SoftGrid Client to Offline Mode

For this article, we'll install SoftGrid Client 4.2.1 into Offline mode manually. To do so, just run the setup using the `msiexec /i`

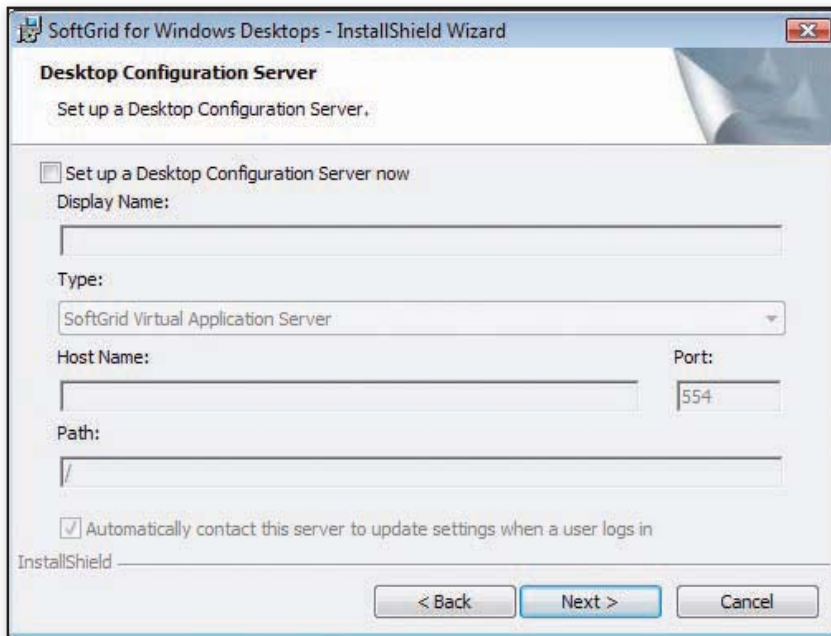


Figure 1: Installing the client in Offline mode

command with the MSIDEPLOYMENT=TRUE flag, like this:

```
msiexec /i softgrid-wd-setup.msi
MSIDEPLOYMENT=TRUE
```

Next, set up the SoftGrid client as you normally would through the standard Wizard-based installation. However, when you get to the Desktop Configuration Server screen, which Figure 1 shows, enter nothing and click Next. That's because the client doesn't require a connection to any server. Remember, it will be working offline.

Because you used the special MSI-DEPLOYMENT=TRUE mode during installation, the client should put in some special registry entries that tell it to work in Offline mode. A quick test you can do after the client is finished installing is to open up the client's registry editor and dive down into HKEY_LOCAL_MACHINE\SOFTWARE\Softricity\SoftGrid Client\CurrentVersion\Network and look for a subkey called Online. If Online is present and set to 0, your installation into Offline mode succeeded.

However, note that one registry option isn't automatically set correctly and really needs to be changed. That subkey is HKEY_LOCAL_MACHINE\SOFTWARE\Softricity\SoftGrid Client\CurrentVersion\Network and the value is DOTimeoutMinutes. DOTimeoutMinutes should be a DWORD set to ffffff (that's six fs). This setting instructs

clients to cache applications offline for 31.9 years, as opposed to the default of 90 days. It would be pretty inconvenient if on the 91st day these applications suddenly stopped working.

Convert the SoftGrid Sequence to an .MSI Package

Again, the whole point of working in Offline mode is to be able to run a sequence entirely in cache, without any maintained connection to a server. To do this, you use the MSI Utility to convert your existing packages and projects to an .msi package. You can find the MSI Utility at tinyurl.com/2zlpqy.

After you run the MSI Utility, you simply point it toward an existing .osd file (with the .sft file in the same directory). In Figure 2, you can see how I've pointed the MSIUtility toward my Adobe Acrobat Reader project file and how the output .msi file is created in the same directory. The whole wrapping

process takes about two seconds for each application.

Note that the large .sft file isn't included in the new .msi file. The .msi file is simply a new way to launch the installation. The .sft file still needs to stick around and be available at install time. Again, we're not actually installing an application on the client; we're installing the .msi, which pushes Acrobat Reader into the local SoftGrid cache.

Test the New .MSI File

Now that you've got your new .msi file, you're ready to test. Figure 3, page 50, shows a Group Policy Object (GPO) that I used to deploy the newly wrapped sequence of Acrobat Reader (as an MSI) to computers. Note that the .msi and .sft files are in the same share (in my example, it's called sgContent), which you can also see in Figure 3.

Remember that users need to be able to read the .msi file and the .sft file through the share. So, be sure that the permissions are set to *Read for Authenticated Users* on both the share and within the underlying NTFS permissions. That way, users and computers, which are both considered (strangely enough) *Authenticated Users*, can access the files. Without Read permissions to *Authenticated Users* your deployment will fail.

When a SoftGrid client that's set up for Offline mode reboots, Group Policy looks to see whether any .msi applications are ready

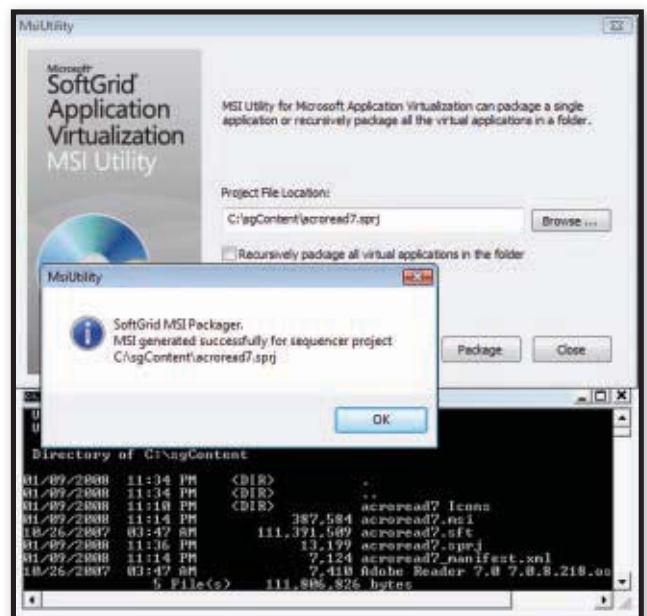


Figure 2: Creating an .msi from an existing SoftGrid project file

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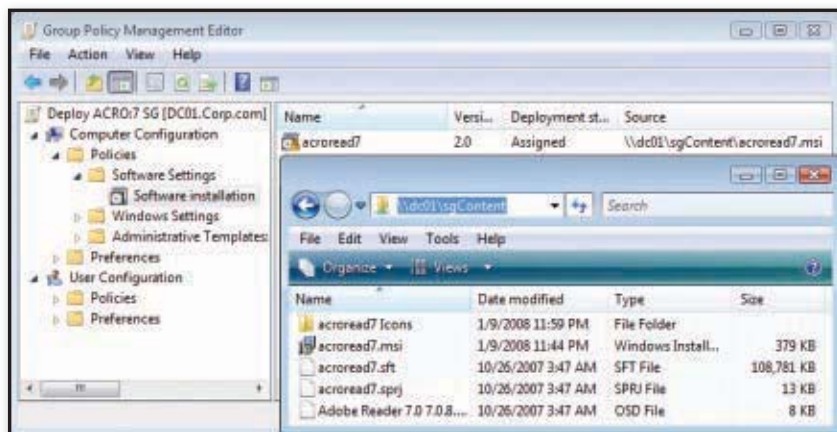


Figure 3: Using GPSI to deploy the newly wrapped sequence of Adobe Reader

to install. If they are, at this point 100 percent of the .msi application is placed into cache. Now, whenever a user logon occurs and a user tries to run the SoftGrid application, the application is simply pulled from the local cache and not from the server.

Mitigate the Downside of Offline Mode

Yes, there are several disadvantages to using the SoftGrid client in Offline mode. Here's a breakdown of the top issues and how to mitigate them.

Once in Offline, always in Offline.

The SoftGrid Client can't switch on the fly between Offline mode and original streaming (Online) mode. So, you have to specifically dictate which SoftGrid clients will work in Offline mode and which SoftGrid clients will work in Online mode.

To mitigate this issue, have a plan about specifically which client computers should get the Offline client and document them. Troubleshooting SoftGrid Online clients is going to be different than troubleshooting SoftGrid Offline clients. In short, you'll likely want to stay with the Online mode for desktops and switch to the Offline mode for laptops.

All Online clients suffer for the good of the Offline clients. If the .msi package gets targeted for regular SoftGrid clients (those not set to Offline mode), you might still see the .msi try to install each and every time regular online SoftGrid clients reboot. That's because the .msi package tries to process but can't successfully install to an online client, so it just times out. This timing out adds to the computer startup time for regular online

clients. To counteract this, be sure to target your .msi packages only for Offline SoftGrid clients.

Offline clients are exempt from some key SoftGrid features. Any clients that use Offline mode are automatically exempt from SoftGrid's nifty auditing feature and software metering. This is because the whole sequence is running locally, not off the SoftGrid server, so there's no checking-in process and no way to audit or meter for license overuse. No solution exists currently to mitigate this problem. If you need to ensure an audit trail each time

a SoftGrid application is run, you must use Online mode.

Take Clients Off the Network

The MSI Utility and the new SoftGrid Client 4.2.1 can help you take your clients off the network and let them work with applications anywhere. And you can use the tools you already know and love to deploy your SoftGrid sequences (now wrapped as .msi files). Many more options exist for using the SoftGrid Offline client. For instance, you might also want to mass-upgrade and configure existing older SoftGrid clients that are currently in Online mode to SoftGrid 4.2.1 while converting them to Offline mode. You can do this by using Group Policy or your own scripting method.

InstantDoc ID 99397



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Using the SoftGrid SMS Connector to Deliver a SoftGrid Application

SoftGrid ships with something called the SoftGrid SMS Connector. It's a neat piece of technology that enables Microsoft Systems Management Server (SMS) administrators to deploy SoftGrid applications by using the same SMS process they always did. However, what's not generally known is that the SMS Connector has been deprecated (that is, put out to pasture).

The problem with the SMS Connector wasn't the technology itself; rather, the technology was too specific to a Microsoft solution. In other words, Microsoft wanted a more generalized way to deploy SoftGrid applications to users and that way should be through MSI.

Many technologies are capable of deploying MSI applications. This includes Microsoft System Center Configuration Manager (SCCM) 2007 (the new version of SMS), Group Policy, and third-party application deployment solutions such as those from LANDesk and Altiris.

The official deprecation has occurred with the birth of the new MSI Utility used in the solution I describe in the main article. So, if you're already using the SMS Connector with SoftGrid, get started using the new SoftGrid MSI wrap-up tool.

InstantDoc ID 99399

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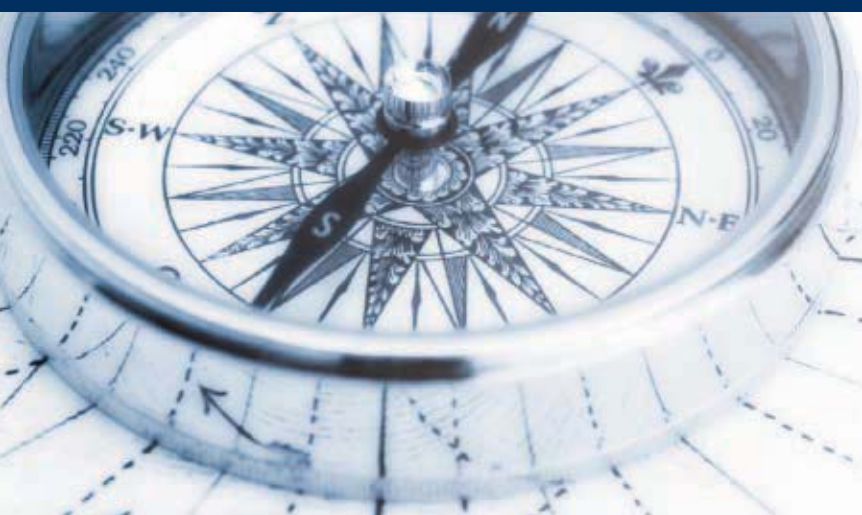
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PROBLEM:

Applications are loading slowly or overall system performance and responsiveness are suffering.

SOLUTION:

Find, then fix the problematic kernel-mode device driver.

WHAT YOU NEED:

Windows Task Manager, Performance Monitor or Process Explorer, and the Kernel Profiling Tool

SOLUTION STEPS:

1. Recognize the problem with knowledge and Windows Task Manager.
2. Diagnose the problem by using Performance Monitor or Process Explorer, and the Kernel Profiling Tool.
3. Solve the problem by reinstalling, updating, or disabling the problematic driver.

DIFFICULTY:

3 Steps to Troubleshooting Device Drivers

by Steven
Daugherty

How to recognize, diagnose,
and solve DPC problems

I'm waiting for an application to start...again. As I stare at the hourglass on my Windows XP desktop, I wonder what is slowing things down this time. I press Ctrl+Shift+Esc to bring up Windows Task Manager and click the Processes tab. I'm ready to kill the offending process, but I find nothing but the usual System Idle Process at the top of the list.

Over time, Windows system performance tends to degrade. Many performance problems can be resolved by eliminating unnecessary programs from startup, defragmenting the hard disk, and cleaning the registry. In my case, however, none of these actions worked. I don't usually get into desktop support issues but since it was *my* desktop, I was determined to find and resolve the problem.

When I searched the Internet, I found many people complaining about the same symptoms in blogs and forums, but they didn't provide any solutions. I got a few clues when some people mentioned that the problem went away after they upgraded a driver or

replaced a disk controller. At this point, I concluded that the performance problem was probably related to a driver, but I didn't know for sure. So, I dug deeper. After wading through some device-driver development articles, I found a gem. The Microsoft TechNet article "Advanced DPCs" (www.microsoft.com/technet/sysinternals/information/advanceddpcs.mspx) discusses how to diagnose driver performance problems by examining deferred procedure call (DPC) queue activity.

DPCs wreaking havoc on Windows system performance is a common problem in not only workstations but also servers. Knowing how to recognize, diagnose, and solve a DPC problem can save you hours of troubleshooting and possibly save you from having to reinstall or reconfigure the problematic workstation's or server's OS.

1 How to Recognize the Problem

To recognize the problem, you need to know about DPCs and how to perform an initial check in Windows Task Manager when you're experiencing a performance problem. DPCs are a part of the Windows interrupt handling architecture. Interrupt handling consists of two



components, both of which are part of a device driver. The first component is the Interrupt Service Routine (ISR), which quickly allows the hardware to get the device to stop interrupting. The driver actually handles the processing around the interrupt later by queuing a worker thread from the created DPC queue object. In short, this means that a driver does its initial work with a hardware device in a DPC. Because both the ISR and DPCs are vendor-provided within the driver for a device, a poorly written kernel-mode driver can have a significant impact on overall system performance.

When you're experiencing a performance problem, you can use Windows Task Manager to see whether it might be due to DPCs. When a performance problem might be related to DPCs, you'll see that the CPU usage is high on the Performance tab, but no processes are taking the blame on the Processes tab. You'll also see that System Idle Process is showing the highest CPU usage on the Processes tab, which is typical for an idle system.

The System Idle Process typically doesn't significantly affect system performance. However, when DPC problems exist, the kernel will be using a large percentage of

the CPU, which can impact system performance. You can find out the kernel's CPU usage by selecting the Performance tab and choosing the Show Kernel Times option on the View menu. The bottom red portion of the CPU Usage graph shows the CPU time being used by the Windows kernel. The sample CPU Usage graph in Figure 1 reveals that something loaded by the kernel is monopolizing the CPU.

2

How to Diagnose the Problem

A kernel can monopolize the CPU for several reasons, so the next step is to diagnose the problem to determine whether DPCs

are in fact causing the high CPU usage and if so, which device is using those DPCs. You can use three tools to drill down and get the details needed for diagnosis:

- Performance Monitor (perfmon.exe). This is a built-in Windows tool.
- Process Explorer (procxp.exe). You can download this free utility from Microsoft at www.microsoft.com/technet/sysinternals/ProcessesAndThreads/ProcessExplorer.msp.
- Kernel Profiling Tool (kernrate.exe). This tool is part of the *Microsoft Windows Server 2003 Resource Kit*, which you can download at www.microsoft.com/downloads/details.aspx?FamilyID=9d467a69-57ff-4ae7-96ee-b18c4790cfd&displaylang=en.

To determine whether DPCs are causing high CPU usage, you can use Performance Monitor or Process Explorer. I find Process Explorer easier to use than Performance Monitor for this purpose, but I'll cover both in case you prefer to use Performance Monitor.

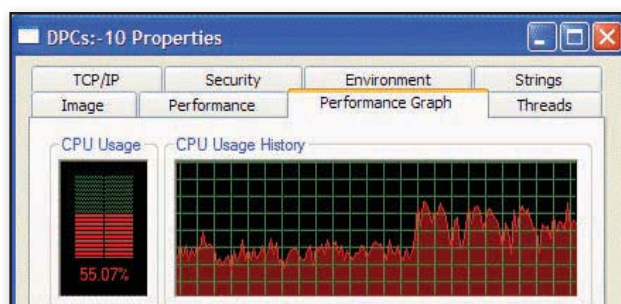


Figure 2: Using Process Explorer to determine how much time the processor is spending on DPCs

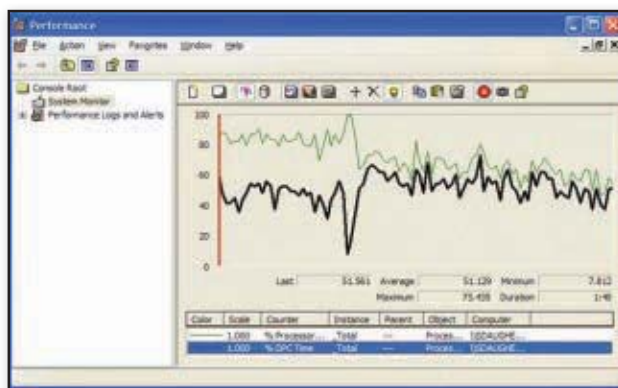


Figure 3: Using Performance Monitor to determine how much time the processor is spending on DPCs

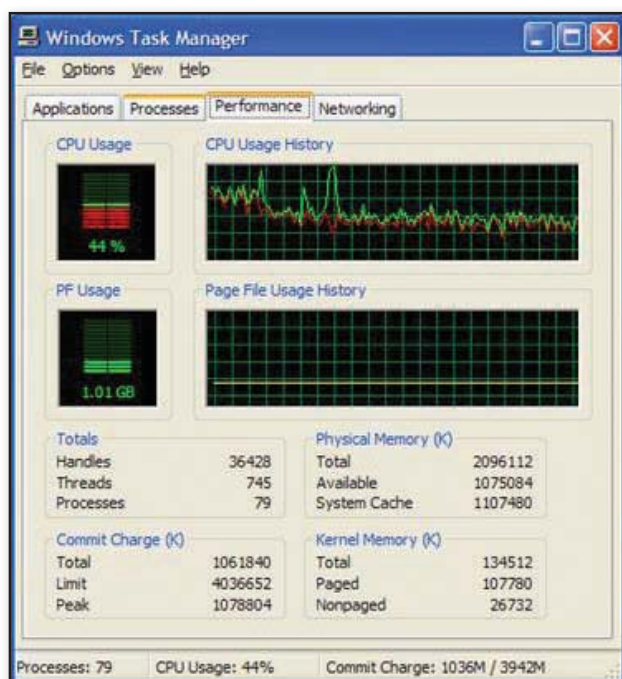


Figure 1: Using Windows Task Manager to determine how much CPU time is being used by the Windows kernel

```
C:\>kernrate

Kernrate User-Specified Command Line:
kernrate

Kernel Profile (PID = 0): Source= Time,
Using Kernrate Default Rate of 25000 events/hit
Starting to collect profile data

***> Press ctrl-c to finish collecting profile data
```

Figure 4: Initial sample output from the Kernel Profiling Tool

In Process Explorer, you can quickly and easily see whether DPCs are causing high CPU usage. In the main window, the System Idle Process is broken into three groups: Interrupts, DPCs, and System. Just double-click DPCs to bring up the DPCs properties page and select the Performance Graph tab. The top two graphs show the DPCs' CPU current usage and CPU usage history, as Figure 2, page 53, shows.

Under the Processor object, Performance Monitor includes a counter named % DPC Time, which tells you the percentage of time a processor is spending on receiving and servicing DPCs. Comparing this percentage to the % Processor Time value reveals what portion of total CPU usage is consumed by a thread in the DPC queue, as Figure 3, page 53, shows. For information about how to use Performance Monitor, see "Perfor-

mance Management in Windows" (March 2003, InstantDoc ID 37933). After Process Explorer or Performance Monitor has confirmed that the CPU is being disproportionately consumed by activity in the DPC queue, you can use the Kernel Profiling Tool to determine which driver is causing the problem. This command-line tool lists kernel modules, including kernel-mode device drivers and the percentage of kernel time that they're consuming.

The Kernel Profiling Tool has many arguments you can use, but for our purposes, you can run it without any arguments, with the command

kernrate

After running this command, you first receive output like that in Figure 4. Wait for about 30 seconds or so, then press Ctrl+C. While the Kernel Profiling Tool runs, keep an eye on DPC activity in Process Explorer or Performance Monitor to ensure the CPU usage remains consistently high during the sample.

```
====> Finished Collecting Data, Starting to Process Results

-----Overall Summary:-----
PO K 0:00:13.343 (34.6%) U 0:00:01.812 ( 4.7%) I 0:00:23.406 (60.7%) DPC
0:00:09.234 (23.9%) Interrupt 0:00:00.687 ( 1.8%)
Interrupts= 102538, Interrupt Rate= 2659/sec.

Total Profile Time = 38562 msec

Context Switches      ,      Total      Avg. Rate
System Calls          ,      161193,      4180/sec.
Page Faults           ,      1116268,      28947/sec.
I/O Read Operations   ,      37612,      975/sec.
I/O Write Operations  ,      4498,      117/sec.
I/O Other Operations  ,      277,      7/sec.
I/O Read Bytes        ,      13362,      347/sec.
I/O Write Bytes       ,      2025716,      450/ I/O
I/O Other Bytes       ,      1571044,      5672/ I/O
I/O Other Bytes       ,      1288736,      96/ I/O

Results for Kernel Mode:

OutputResults: KernelModuleCount = 170
Percentage in the following table is based on the Total Hits for the Kernel

Time 14302 hits, 25000 events per hit -----
Module Hits msec %Total Events/Sec
intelppm 8757 38567 61 % 5676485
ntoskrnl 4036 38567 28 % 2616226
win32k 459 38567 3 % 297534
hal 421 38567 2 % 272901
nv4_mini 372 38567 2 % 241138
USBPORT 103 38567 0 % 66766
nv4_disp 40 38567 0 % 25928
ntfs 20 38567 0 % 12964
viexca2k 11 38567 0 % 7130
usbbehci 11 38567 0 % 7130
SYMEVENT 9 38567 0 % 5834
```

Figure 5: Identifying the problematic driver

Learning Path

For background information on DPC and ISR:

"Advanced DPCs"

www.microsoft.com/technet/sysinternals/information/advanceddpcs.mspx

"Inside NT's Interrupt Handling," InstantDoc ID 298

"Inside Win2K Reliability Enhancements, Part 3," InstantDoc ID 7206

For information on how to disable device drivers:

"How to Disable a Service or Device That Prevents Windows from Starting"

support.microsoft.com/kb/310602

"How to Troubleshoot Hardware Problems with Device Manager"

www.microsoft.com/windowsxp/using/setup/learnmore/devicemgr.mspx

Figure 5 shows an excerpt from the second part of the sample output. As you can see in the "Results for Kernel Mode" section, the problematic driver is intelppm, the Intel processor driver that's part of the OS load. This driver throttles the CPU in order to conserve power consumption to extend battery life. The Intel processor driver probably wasn't the cause of the problem; instead, the problem was likely due an interoperability issue with this driver and other hardware or drivers installed on my system. Regardless, it's not required on a nonportable computer where battery life is of no concern.

3

How to Solve the Problem

The options for solving a DPC problem are to reinstall, update, or disable the driver that's causing the problem. Which option you choose depends on the driver. For example, you can't disable a driver that your system needs or update a driver when no updates exist. In my case, because the Intel processor driver isn't a required driver for my system, I decided to disable it.

There are several ways you can disable drivers, including through the registry, Device Manager, and Recovery Console (RC). I opted to disable the Intel processor driver through the registry. If you're interested in using RC or Device Manager to disable a driver, see the articles referenced in the "Learning Path."

The registry data for the Intel processor driver is in the HKEY_LOCAL_MACHINE\

SYSTEM\CurrentControlSet\Services\intelppm subkey. To disable this driver, I changed the Start entry from a value of 1 to a value of 4. Table 1 shows the Start values you can use for subkeys under the HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services key. For more information about how to read and change entries in these subkeys, see the Microsoft article “CurrentControlSet\Services Subkey Entries” (support.microsoft.com/kb/103000).

As Microsoft continually reminds us, it's important that you understand how to restore the registry before you edit it. It's also important to reboot before and after editing the registry. Rebooting before a change is important to ensure a clean Last Known Good Configuration in case you need to restore the registry. (The

Table 1: Possible Start Values

Start Value	Description
0 (0x0)	Drivers required to read the boot volume are loaded by the kernel (Boot Loader).
1 (0x1)	Drivers are loaded at kernel initialization by the I/O subsystem.
2 (0x2)	Services are automatically started and drivers are automatically loaded at system startup by the Service Control Manager.
3 (0x3)	Services and drivers are available. The Service Control Manager starts the service or loads the driver only when initiated by user.
4 (0x4)	Services and drivers are disabled and can't be started or loaded.

Last Known Good Configuration includes everything under CurrentControlSet key and is updated after a successful logon.) Rebooting after a change is necessary for the change to take effect.

3 Simple Steps Is All It Takes

If your applications are loading slowly or don't load at all, the culprit might be a device driver and the DPCs it makes. By using tools such as Windows Task Manager, Performance Monitor, Process Explorer, the Kernel Profiling Tool, and the registry, you can

quickly recognize, diagnose, and solve driver performance problems.

InstantDoc ID 99312



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Use Cmd.exe's Start Command to Simplify Setup Automation



Achieve small-scale software deployment without errors or omissions

by Alex K. Angelopoulos

Author's note: This article presents one technique for partial installation automation. However, I have since crafted another, simpler method for installation automation from a batch file. You can read the companion article at InstantDoc ID 99675.

Many organizations are too small to cost-effectively deploy software by using tools such as Microsoft Systems Management Server (SMS). The person responsible for software installation—typically an external IT consultant or an employee with part-time support duties—falls back on manually installing each application on system rebuilds or new installations, which can be a slow and potentially error-prone process. However, by using a simple batch file and cmd.exe's Start command, it's possible to speed up the deployment process and reduce the risk of accidental omissions. Let's look at when and why you'd want to use this method, then walk through how to deal with some of the problems you might encounter.

Why Start?

Cmd.exe's Start command is a simple tool with features that make it ideal for basic setup automation. In general, any command you can run on a Windows system can be run from a batch file. You can add command-line options as necessary, and the batch file can wait for each command to finish before running the next command.

Why use Start? It's easy to forget specific applications that you need to install for a system. For example, you might forget to install a small application even though it's important to a client. At small sites that you rarely visit, you might get distracted by troubleshooting tasks in the middle of configuring a system and forget where you are in a chain of application installations. By wrapping all of the setup launchers into a batch file, there's no danger of forgetting an application. If you don't need to install a particular application in the set, you can always cancel its installation and go on to the next one.

It's also easy to lose specific application sources that are on a network. Again, a batch file will have all of these locations in it, eliminating the headache of searching for those items.

Finally, even when you do know where everything is, you can waste a significant amount of time navigating to files and waiting for applications to start up and shut down. The Start command will shave off some of this start-up time. And when applications have installers that support command-line automation, installation can even proceed while you're doing other work elsewhere. Let's look at the proper way to run setups now.

Use the Wait Option

By default, the Start command always spawns an application in a new process and continues on its way. Obviously, it's not a good idea to start up 17 different installers simultaneously; the resource demand would overload almost any PC. In any case, well-behaved Windows Installer (.msi)-based installation programs will refuse to run if another .msi-based installation is already running, making it easier for Windows to untangle applications. To handle this situation, simply

■ START COMMAND

include the /wait option with the Start command. You can abbreviate the /wait option to /w. To run the installer located at z:\dsp\xp\WindowsXP-KB926139-x86-ENU.exe, you would start it like this:

```
start /w z:\dsp\xp\WindowsXP-KB926139-x86-ENU.exe
```

The batch file waits until WindowsXP-KB926139-x86-ENU.exe terminates and only then goes to the next command. Occasionally some applications—usually very old ones—run a chain of their own application installations and exit before processes they’ve launched actually terminate. You’re unlikely to run into these older applications very often, but if you do, you can still use the batch file after adopting one of two strategies. Either place a single such application at the very end of the batch file, where it won’t matter that the /wait does you no good, or insert a Pause command in the batch file immediately after the line on which you run the installer:

```
start z:\dsp\legacy\oldapp.exe
echo wait for OldApp to finish
installing && pause
```

Although it theoretically doesn’t help in this situation to use the /w option, it’s a good habit to use in creating scripts for setup chaining.

Set the Working Directory

On some occasions, you might need to control the working directory of the launched application. For example, some installers might use user-specific license files or need a local directory for extraction and not automatically get the user’s temp folder. You can force the working directory by using the /d option. If the application needs files from the OldAppData folder in the user’s profile, you can run it like this:

```
start /w /d %userprofile%\OldAppData
z:\dsp\legacy\oldapp.exe
```

Handling Paths with Spaces

The single most significant problem people encounter when using the Start command is its behavior with file paths containing spaces. If you check the command-line options for the Start command, you’ll see why. Omitting some of the options for brevity, the Help display looks like this:

```
START ["title"] ... [command/program]
```

When the Start command sees a quoted string in its command line, Start assumes that you want to create a new window with the quoted string as the title. This means that if you try to run the installer z:\dsp\misc\Acme Shipping.msi by using the command

```
start /w "z:\dsp\misc\Acme Shipping.exe"
```

you won’t see the Acme Shipping.exe installer start. Instead, an empty command-prompt window will pop up with the title z:\dsp\misc\Acme Shipping.exe.

You could use the /d option if the directory path had spaces in it, but here our problem is the executable itself. Start offers no way to specify that the quoted string is really the path.

There are two solutions to this problem. One is to provide a quoted string first. For GUI installers, the title won’t matter, but you must provide a quoted title string initially so that Windows will interpret the quoted command path correctly. We can modify the nonfunctional batch file line by adding a quoted string to make it work:

```
start "" /w "z:\dsp\misc\Acme
Shipping.exe"
```

Another alternative is to rename the setup file. This is useful anyway for rarely visited networks, because you can add versioning information to the title while you’re at it, as well as a string to identify the executable as a setup file. If you pick a name such as AcmeShippingSetupv5.1.exe, you get an additional bonus: Windows Server 2008 and Windows Vista will automatically prompt for privilege elevation when invoking an application that has the word “setup,” “install,” or “update” in its name, ensuring that the application installs properly. As a result, if you later do click-and-run installations you’ll get helpful prompting.

Add Command-Line Options

When you use Start to run an application, Start passes everything that follows the application name to the application as arguments, so adding command-line options is straightforward. Suppose you’re installing Windows Defender from the file WindowsDefender.msi. Windows Installer packages universally support certain command-line options. For example, /log followed by a colon and the

name of a log file records installation details to the named log. So, if you wanted to log details to c:\install.log and weren’t using the Start command, you could do so by executing the command

```
z:\dsp\core\WindowsDefender.msi
/log:c:\install.log
```

You use precisely the same command if you’re executing it with the Start command. If you want to start the installation and wait, you just use this:

```
start /w z:\dsp\core\Windows
Defender.msi /log:c:\install.log
```

The only special case is if an argument needs quotes. You can use the same technique I demonstrated in the section about handling paths with spaces and include an initial empty quoted string. Therefore, if you were logging installation data to C:\Install Records.log, you would use a Start command such as

```
start "" /w z:\dsp\core\
WindowsDefender.msi /log:"C:\Install
Records.log"
```

Simple Automation in Minutes

What makes Start commands especially nice is that when you’re ready to perform a sequence of installations, you simply put all the Start commands into a text file—each command on its own line in the order you want to run it, then save the file with a .bat or .cmd extension. You can save the batch file to a network folder located above all the installation media you use, to make it easy to locate each time you need to add or remove a standard installation item.

Given a large infrastructure and budget, a tool such as SMS is still a winner, not least because it does other things in addition to automating software setup. But when you don’t have that tool, using a batch file with the Start command returns a lot of value for the investment of only a little time.

InstantDoc ID 99528



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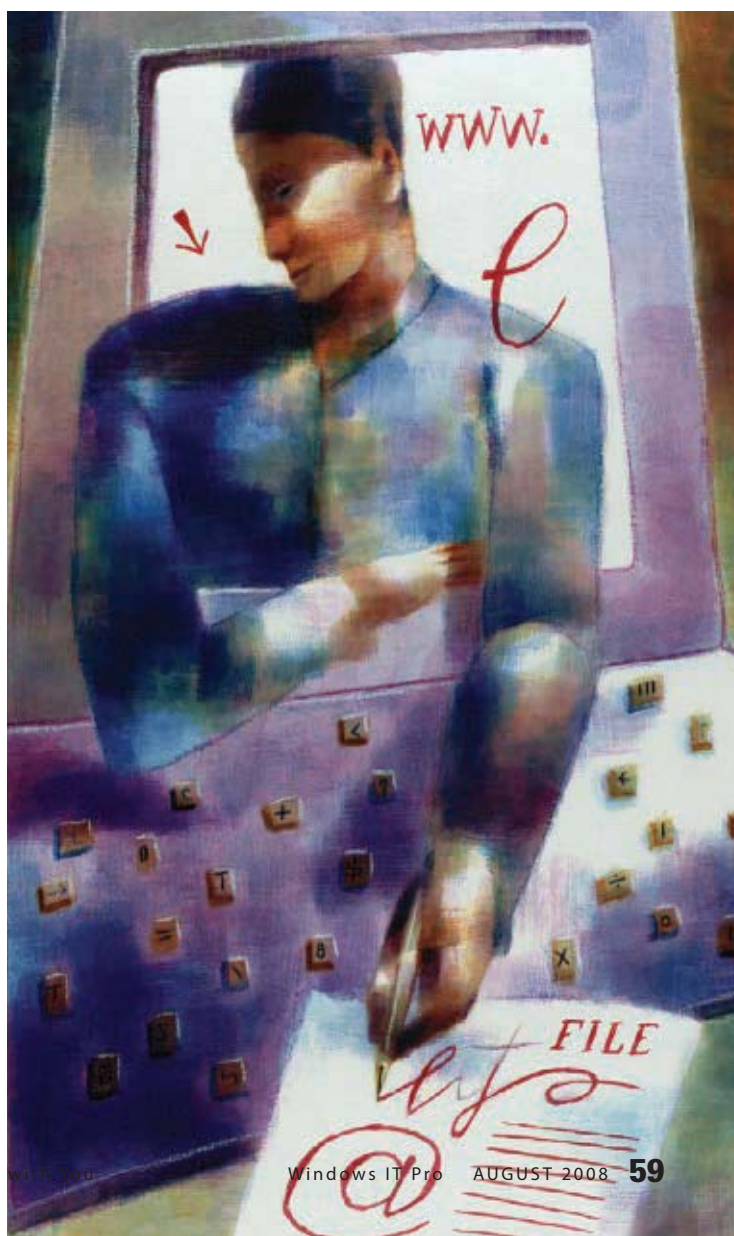
Deploy Exchange 2007 on a Single Server

By configuring the Hub Transport role to handle Internet email, you can run Exchange Server 2007 on one physical server

by Damir Dizdarevic

Microsoft Exchange Server 2007 is geared toward deployment in multiserver environments. By default, it's designed to work with at least two physical servers: one for the Edge Transport server role, the other for the remaining roles (Hub Transport, Mailbox, Client Access, and Unified Messaging). Although Microsoft highly recommends using Exchange 2007 with at least two physical servers, in certain scenarios you'd want to install and run Exchange 2007 on one machine. For example, a small business might not be able to afford dedicating more than one server to running Exchange.

The good news is, Exchange 2007 *can* work in a single-server deployment scenario, but to make this happen, you need to perform several configuration steps. To deploy Exchange 2007 in a single-server environment, you must install three crucial server roles (Hub Transport, Client Access, and Mailbox) on one machine, without installing the Edge Transport role at all. Instead, you need to configure the Hub Transport role to perform the job for both Hub and Edge roles. (Of course, you'll also need to set up Active Directory—AD, the Global Catalog, and DNS—preferably on a different physical server than the Exchange server.) You'll also need to be aware of several downsides of single-server deployment. First, in this setup, all



Exchange 2007 roles on the server are available from—and exposed to—the Internet, which poses a security risk. (A firewall can mitigate this risk.) Second, having all roles on one Exchange 2007 server makes your server the single point of failure. Finally, because you'll need to implement anti-spam and antivirus protection on the Hub Transport role, you should expect more load on the server's resources. Assuming you've addressed these issues, your next step is to learn more about the roles you'll need to configure for single-server Exchange 2007, then walk through the procedure for setting up those roles.

Role Differences in a Single-Server Environment

When you configure Exchange 2007 on your server, your first task will be to configure the Edge Transport and Hub Transport roles to handle only intra-organizational message traffic. By default, the Hub Transport server role cannot deliver messages to users outside an Exchange organization, nor can it receive messages from outside the organization. Normally, a Hub Transport

“In a single-server scenario, I highly recommend you use a firewall capable of application-layer filtering.”

server can communicate with other Hub Transport servers in the same organization as well as with Mailbox servers and with the Edge Transport server. (For more information about communication among the server roles and how messages flow between servers, see the sidebar “How Messages Move in a Multiserver Exchange 2007 Environment.”)

To enable Exchange 2007 to run in a single-server environment, then, you'll need to enable the Hub Transport server role to essentially function as an Edge Transport server since no Edge Transport server role is installed. You'll need to install the three essential server roles—Mailbox, Client Access, and Hub Transport—on the same machine. In very small organizations, this server will probably be a domain controller (DC) also. Since

the Hub Transport role by default isn't configured to work without the Edge Transport, you'll need to perform these tasks to enable Hub Transport to do the work of an Edge Transport server as well as perform its own Hub Transport functions:

- Enable the Hub Transport role to send messages directly to the Internet.
- Enable the Hub Transport role to receive messages from the Internet.
- Install and enable antispyware functionality on the Hub Transport role.

In contrast to the special configuration you'll need to do for the Hub Transport role, configuration of the Mailbox and Client Access server roles is almost the same as in a multiserver Exchange environment that includes an Edge Transport server. However, in a single-server Exchange 2007 environment, the Mailbox role is far more exposed to potential Internet attacks than in an environment with an Edge Transport server, where the Mailbox and Hub Transport servers aren't directly connected to the Internet. In a single-server scenario, since the Mailbox server is located with the Hub Transport server (which is configured to work on the Internet) and Client Access server (which hosts Exchange Web services also available from the Internet), there are many more open ports to outside connections. Thus, I highly recommend you use a firewall capable of application-layer filtering. Microsoft ISA Server 2006 is the best choice in this case since it supports Exchange 2007 secure-server publishing. (You can learn more about securing Exchange 2007 with ISA Server in the Web-exclusive article “Securing Exchange Server 2007 Services with ISA Server 2006,” October 2007, InstantDoc ID 96957.) I also strongly recommend running Security Configuration Wizard (SCW) after you install Exchange 2007, to harden your Exchange server's security. Remember to import the Exchange 2007 template to SCW before running the wizard. Now that you have a handle on

How Messages Move in a Multiserver Exchange 2007 Environment

In a typical Exchange Server 2007 scenario, you'll have at least two physical servers, one of which is dedicated to the Edge Transport role. Here's how a message moves between the server roles in this scenario. When the Mailbox server notifies the Hub Transport server that the Mailbox server has a message for delivery, after the Hub Transport server processes the message, it decides whether that message should be transferred to another (or same) Mailbox server in a site, transferred to a Hub Transport server in another site, or forwarded to the Edge Transport server. All messages directed to Internet users (or users outside your Exchange organization) are forwarded to the Edge Transport server. This server uses public DNS servers to locate the destination mail server, then transfers the message by using SMTP or simply forwards the message to a smart host. Optionally, the Edge Transport server also applies transport rules on message or address rewriting, if these options are configured.

On the other side, when an inbound message from the Internet reaches the Edge Transport server (this server is reachable via MX records in your domain's public DNS zone), anti-spam and antivirus agents process the message, the Edge Transport server applies transport rules (if there are any) to the message, and finally the Edge Transport server transfers the message to the Hub Transport server. The Hub Transport server searches the Global Catalog to locate the recipient's Mailbox server, then transfers the message to the user's mailbox.

InstantDoc ID 97776



_INFRASTRUCTURE LOG

_DAY 48: We're sitting on a giant mountain of information but we can't use it to drive the business forward. We need info we can trust. We need info we can act on.

_We need to get Gil an oxygen tank.

_DAY 50: I'm taking back control with IBM. Their Information On Demand portfolio can help us optimize our business by unlocking the real value of our information. Now we have everything we need, including software, services and storage, for an end-to-end solution. We can turn trusted business info into actionable insight.

_We made the goat our office mascot. He eats paperwork.



Information Management

Watch the Information On Demand video at:
IBM.COM/TAKEBACKCONTROL/INFO

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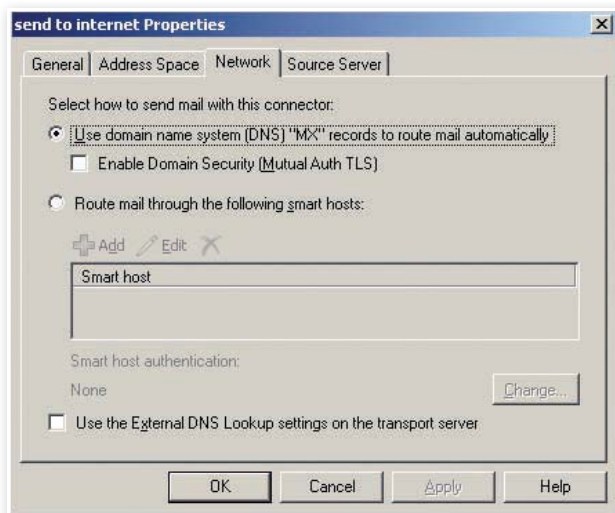


Figure 1: Specifying a name-resolution method for a newly created SMTP Send connector

the server-role differences, you're ready to start the actual configuration. This article assumes that you've already installed Exchange 2007 on the server.

Configure Hub Transport to Send Email to the Internet

To enable the Hub Transport server role to send messages to the Internet, you'll need to configure the name-resolution service and the SMTP Send connector. The Hub Transport server role must be able to resolve Internet DNS names based on the recipient's email address and locate the correct destination SMTP server for message delivery. To enable Internet message delivery, you'll have to create the Internet SMTP connector on the Hub Transport server. The Send connector represents a logical gateway through which outbound messages are sent. It controls outbound connections from the internal sending server to the external receiving server or destination email system. By default, no explicit Send connectors are created when the Hub Transport server role is installed.

To create the SMTP connector, open Exchange Management Console (EMC), navigate to Organization Configuration, and open Hub Transport. Then click the Send Connectors tab, and in the Actions pane,

will send a message to any domain on the Internet. If you want to create a connector for a specific domain, instead of entering *, enter a domain name and the options for that domain.

Click Next, and on the Network tabbed page select an option for name resolution, as Figure 1 shows. The default option is to use DNS MX records to route email. This means that your Exchange server will use the destination domain name to query your locally configured DNS for the IP address of the destination mail server. After that, Exchange will look for the MX record in the destination zone to locate the mail server. At

this point, you can also enable mutual authentication by Transport Layer Security (i.e., by selecting the Enable Domain Security... option) if you want to enable mail servers to authenticate to each other

click New Send

Connector. On the first screen, enter the SMTP connector name (e.g., *send to internet*) and in the *Select the intended use for this connector* drop-down list, select Internet. Click Next, and on the Address Space page, click Add. In the Domain field, enter an asterisk (*). By entering this, you're essentially creating a connector that

before starting communications. However, this option might not work with all Internet mail servers that your Exchange server communicates with, since not all mail servers support this feature.

The second option for name resolution is to route mail through a smart host server. This means that your Hub Transport server simply forwards every message to the specified smart host server (e.g., your ISP's mail server), which will handle the entire message-delivery process. This is a suitable option when you don't want to handle name resolution for messages locally (e.g., you don't want to allow local DNS servers to access the Internet) and have an external mail server available to serve as your smart host. On this page you can also select the *Use the External DNS Lookup settings on the transport server* option, which lets you use a separate DNS server (or servers), only for sending messages. (To configure these DNS servers' addresses, you'll need to use the Set-TransportServer cmdlet.) Click next in EMC, add the source server (since we have only one server, this server is selected

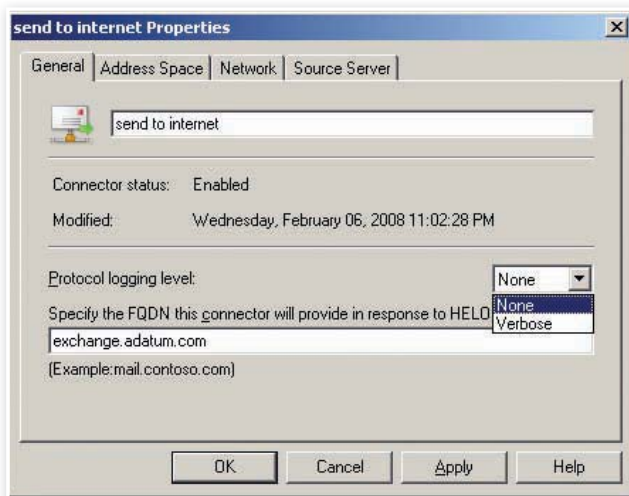


Figure 2: Setting the protocol-logging level and FQDN

by default), click Next again, and click New to create the new SMTP Send connector. If you'd rather use Exchange Management Shell (EMS) instead of EMC to configure the SMTP Send connector, you can do so by using the cmdlet in Listing 1. (The cmdlet wraps to multiple lines in print; you'd type it on one line in EMS.)

After you've created the connector, right-click it and select Properties. You need to set a few more options before you can use the

Listing 1: Creating an SMTP Send Connector

```
new-SendConnector -Name 'Send to Internet' -Usage 'Internet'
-AddressSpaces 'smtp:*;1' -DNSRoutingEnabled $true
-UseExternalDNSServersEnabled $false -SourceTransportServers 'ServerName'
```



_INFRASTRUCTURE LOG

_DAY 51: We can't work the way we want! We're not collecting or sharing knowledge! How can we unlock our talents when we're cut off from each other like this?

_Everyone feels like they're working in a bubble.

_DAY 52: The answer: the new generation of collaboration tools from IBM. Lotus helps us organize, share knowledge and communicate around our work to transform our ideas. Its flexible, security-rich portfolio integrates with what we have now and will have in the future. And IBM services can build a collaboration solution that's right for us.

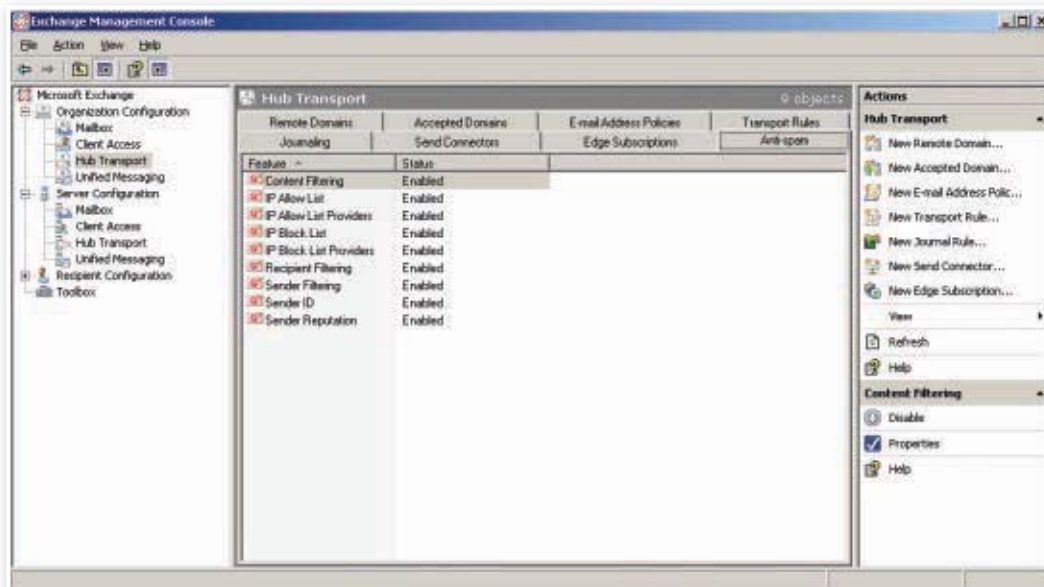
_The bubbles are gone. They were very satisfying pops.



Lotus

Watch the Lotus Collaboration demo at:
IBM.COM/TAKEBACKCONTROL/LOTUS

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Configure Hub Transport to Receive Internet Email

To enable the Hub Transport server to receive messages from external sources, your first task is to configure an accepted domain for your Exchange organization. An accepted domain is any SMTP domain for which your Exchange server sends or receives email. Accepted domains include those domains for

new connector. First, set the Fully Qualified Domain Name (FQDN) for the new connector and the protocol-logging level (None or Verbose), as Figure 2, page 62 shows. The FQDN is actually the name that your server will use to present itself to other SMTP servers on the Internet; usually this is your mail server's public FQDN. Next, open the Network tab. On the Network page, you can select the way your server authenticates to the smart

host, if you configured one. If not, you're done here.

Now your Hub Transport server can send messages both internally and to the Internet. At this point, you can try to send a message to someone outside your organization. You should be able to do so; however, you can't receive messages yet. So, your next step is to configure the Hub Transport server so that it can receive Internet email.

which the Exchange organization is authoritative (i.e., the server handles mail delivery for recipients in that domain) as well as domains for which the Exchange organization receives mail, then relays it to the external mail server. You must configure at least one accepted domain before you can use that SMTP namespace in an email address policy.

To configure the accepted domain, open EMC, navigate to Organization Configuration, open the Hub Transport node, and go to the Accepted Domains tab. Click New Accepted Domain in the Actions pane to start the wizard. On the first page, enter the domain's name (this will probably be the name of your domain) and FQDN of the accepted domain. When you enter the accepted domain, you can use a wildcard character in the address space, to indicate that all subdomains of the SMTP address space are also accepted by the Exchange organization (e.g., *.microsoft.com will also accept all subdomains of Microsoft.com domain).

Next, select Authoritative Domain, which indicates that your server is responsible for mailboxes in that domain, and click New to create the new accepted domain. You can repeat this procedure for any domain that you want to accept messages for, but make sure that you configure MX records for these domains to point to your mail server.

Now you need to configure the Receive connector. The Hub Transport server has

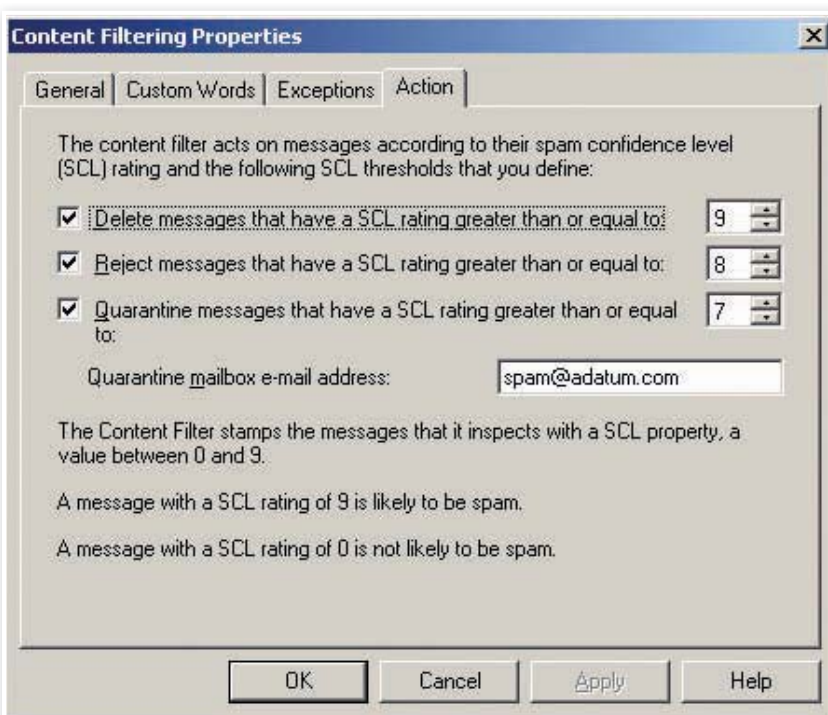


Figure 4: Setting content-filtering properties on the Hub Transport server



_INFRASTRUCTURE LOG

_DAY 54: This gap between LOB and IT is getting out of hand. Our business processes are rigid and inflexible. We can't react to changes in the business environment. We've got to find a way to bridge the chasm.

_Gil's gonna jump it. I think he needs a bigger engine.

_DAY 55: I'm closing the gap with a Smart SOA™ approach from IBM. They offer a full range of hardware, software and services to speed alignment of LOB and IT. They've proven themselves in over 6,550 SOA engagements of all sizes. Now we have the agility to respond to change.

_Gil says from now on, he's not jumping metaphors.



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Learning Path

Learn more about Exchange 2007 server roles:

"Configuring Exchange Server 2007," InstantDoc ID 96044

"Exchange Server 2007 New Features," InstantDoc ID 94501

"Exchange 2007 Server Roles and You," InstantDoc ID 53882

"What are the Microsoft Exchange Server 2007 server roles?" InstantDoc ID 93951

Learn more about Exchange Server security:

"Securing Exchange Server 2007 Services with ISA Server 2006," InstantDoc ID 96957

"Securing Microsoft Exchange Server 2007," InstantDoc ID 97079

two default receive connectors, but both connectors require authentication. Because you want your Hub Transport server to accept messages directly from the Internet (not from the Edge Transport server), you'll need to allow an anonymous connection. To do so, open the Server Configuration node, click Hub Transport, and in the middle pane right-click the Default ServerName connector and select Properties. Open the Permission Groups tab and click the *Anonymous users* check box. Leave the other check boxes as is. Click OK when you're done.

Note that there's one more Receive connector, the Client ServerName connector. That connector is configured to work on port 587 and is intended to be used by POP3 and IMAP4 clients for sending messages with TLS authentication. You can easily change this port number by editing the connector's properties. Don't allow anonymous connections on this connector.

Enable Antispam Functionality on Hub Transport

Since you aren't using an Edge Transport server, you have to implement antispam protection on the Hub Transport server role. By default, antispam functionality isn't installed on the Hub Transport server; you'll need to use EMS commands to install it. To do so, open EMS, navigate to the folder in which you've installed Exchange Server (the default path is C:\Program Files\Microsoft\Exchange Server), then navigate to the Scripts subfolder.

Now enter the following command:

```
Install-AntispamAgents.ps1
```

This command adds antispam functionality to the Hub Transport server. Close EMC and reopen it, open the Organization Configuration node, and click Hub Transport, and you'll notice a new Anti-spam tab. Click that tab, and you'll see various features for anti-spam functionality, as Figure 3 page 64, shows.

The first capability you should configure here is content filtering. Open the Content Filtering Properties page and click the Action tab. Here's where you'll configure actions for messages after they're assigned a spam confidence level (SCL) value. Three actions are available: delete, reject, and quarantine. I suggest your initial configuration be to delete messages with an SCL of 9, reject messages with an SCL of 8, and quarantine messages with an SCL of 7. In this configuration, messages with an SCL of less than 7 will be delivered to user's mailbox, as Figure 4, page 64, shows. Since Exchange 2007's built-in spam filter is intelligent and

from receiving or sending messages. Sender ID seeks to verify that every email message originates from the Internet domain from which it claims to have been sent. This is accomplished by checking the address of the server sending the email against a registered list of servers that the domain owner has authorized to send mail. Sender reputation is an antispam functionality designed to block messages according to many sender characteristics. Sender reputation relies on persisted data about the sender to determine what action, if any, Exchange should take on an inbound message.

Ready for Email

Once you've verified that AD is working correctly and all Exchange services are functional, you're ready to start using your Exchange 2007 server to send and receive email. As you've seen, installing Exchange 2007 on a single server is feasible if you know what steps to perform and are aware of the configuration differences in this setup as compared with a more typical multiserver Exchange 2007 environment.

"Since you aren't using an Edge Transport server, you have to implement antispam protection on the Hub Transport role."

learns over time, after a while you'll probably want to change those actions to values that better fit your needs.

On this page, you'll also need to configure a spam mailbox—the mailbox that will hold all quarantined messages. It's a good idea to create a mailbox solely for this purpose. The administrator should check this mailbox periodically and search for false positives—that is, quarantined messages that should be delivered to users.

Other options on Anti-spam tab let you configure IP allow and IP block lists, if you want to explicitly allow or block certain IP addresses from communicating with your mail server. You can also configure Exchange to receive allow and block lists from external service providers. Additionally, you can configure recipient and sender filtering and Sender ID and sender reputation options. Recipient filtering and sender filtering let you block a specific recipient or sender

Although a single-server Exchange 2007 solution can be cost-effective and fully functional, the biggest concern about this type of setup is security, since certain resources, most notably the Mailbox role, are exposed to the Internet. If you're going to set up a single-server Exchange solution, I also recommend that you implement more than one hard disk in your Exchange server as well as configure local continuous replication for high availability.

InstantDoc ID 99392



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_INFRASTRUCTURE LOG

_DAY 41: Our processing needs and energy bills keep growing! We're spending so much just powering and cooling our machines. Gil knows where we can generate more power.

_He moved the data center to the top of a dam.

_DAY 44: I've got it: IBM Services can help us design a data center that runs on fewer, more energy-efficient IBM Systems, driving utilization up and costs down. IBM Systems Director Active Energy Manager™ and IBM Tivoli software can help monitor usage and manage costs. It's all part of their approach to the new enterprise data center.

_Good—I'm not that into dams. I'm more of a fjord guy.



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I'm honored to work with some of the greatest IT teams on the planet, including the awe-inspiring folks at NBC Olympics, who play a pivotal role in bringing the Olympic Games to the air and to the Internet every two years or so. This summer, in Beijing, we're making more use of SharePoint than ever before, and I want to share with you four of the tasks we've conquered by using SharePoint. I'll explain how to tie existing applications into SharePoint; replicate documents between document libraries; create intelligent, form-based applications; and develop multiuser applications that provide rich client and Web-based interfaces. I hope to give you insight into real-world uses of SharePoint, teach you what we've learned along the way, and inspire you to use SharePoint to provide new types of business solutions.

Custom Document Management

I'm often asked, "How can I hook my existing applications into SharePoint to leverage SharePoint's collaboration features?" One of our applications is a custom Microsoft .NET application that—put simply—generates specifications about venues so that engineering and production staff know what types of situations they'll be dealing with. One of the outputs of the application is a PDF file about the venue. In this Games, the application was modified so that instead of storing the PDFs in a traditional file share, the PDFs are saved to a SharePoint document library.

You have several options for saving PDFs to a document library. The most complex and rich method is to use code (or a third-party tool) to generate the PDF on the SharePoint server, then develop custom code using the SharePoint object model to manage document metadata (columns) and manipulate the document library. But there are easier methods. You can email-enable a document library so that email messages with an attached document can be sent to the library, and the library will receive that message and automatically store the document—and, optionally, the message as well. This is one of the easiest ways to extend existing applications: just have the applications email the document to the address of the library. Note that this method effectively populates the document library, but you would need a workflow or other programmatic or manual method to configure document metadata.

You can also use Web Distributed Authoring and Versioning (WebDAV) to interact with SharePoint document libraries. Our custom application saves its PDFs to the document library using the URL of the library. WebDAV lets you use standard Windows methods to retrieve documents from a library—you can even map a drive to a document library. Therefore, we also used WebDAV to implement simple document library replication. The PDFs generated by the custom application need to be available on servers in both



These four
real-world
applications
will inspire your
own business
solutions

by Dan Holme

Beijing and New York. We needed a low-overhead way to get documents from Beijing, where the documents are generated, to New York, where they are available in a read-only library. We opted to use a scheduled task to launch Robocopy to mirror the contents of the document library in Beijing to the document library in New York.

When you use WebDAV to interact with a document library, you lose metadata richness. So, for example, we can't mirror metadata about a document in Beijing to New York. But metadata replication wasn't a requirement, so by focusing on the core requirement, we found a solution that the team liked and that took less than an hour to implement. If our requirements were any deeper, we would have needed a third-party content replication application.

Help Desk Application

The site templates available out of the box with SharePoint are generic at best. If you need a SharePoint application that supports a specific business task, function, or department, you're out of luck. Out of luck, that is, unless you turn to the Fabulous Forty application templates that Microsoft has developed. Application templates provide a lot of cool, out-of-the-box functionality through custom lists, libraries, workflows, content types, and Web parts. The Fabulous Forty includes templates for dozens of scenarios, including a Help Desk template that we'll be customizing to support the Help desk for NBC during the Games. You can download the templates at www.microsoft.com/downloads/info.aspx?na=22&p=1&SrcDisplayLang=en&SrcCategoryId=&SrcFamilyId=&u=%2fdownloads%2fdetails.aspx%3fFamilyID%3d5807b5ef-57a1-47cb-8666-78c1363f127d%26DisplayLang%3den.

In Beijing, we need an application to support the Help desk, which exists for about four weeks and is crucial to operations. But the limited lifetime of the application means that we need an inexpensive, easy-to-use-and-maintain solution. We used the Windows SharePoint Services (WSS) 2.0 Help Desk application template in Torino, and we'll be making even more use of the WSS 3.0 version in Beijing.

The template provides a ticketing system that lets our Help desk staff enter tickets, update and track issues, and assign tickets and tasks, which is important because a

ticket might cross from one shift to another. The template also lets our Help desk manager monitor progress on tickets and pull reports. I'll be monitoring the template to look for common concerns that we can address with training or through configuration changes to clients and applications.

Because you can extend these templates, we'll add a Calendar list to incorporate our Help desk staff scheduling so that we always know who is on duty and which escalation points are on call. We'll use a Contacts list to store the contact information, and we'll have a mobile access page for that list so that we can get to contact information using a PDA from anywhere on our network.

Content Delivery

If you've paid any attention to the preparations for the broadcast of this Olympics, you'll know that a huge amount of content will be made available over the Web and to your mobile devices. For the first time, you'll be able to watch events from any device and be able to see events and competitors you've never had the chance to see before. In Salt Lake City and then Torino, where NBC expanded its coverage to a broad range of broadcast and cable channels, the sport of curling caught fire. I'm excited to see which sports, countries, and athletes capture our imagination this summer!

To get all that content to the right media outlets, a dedicated video distribution application takes video packages and delivers or streams them. A large amount of metadata accompanies each package—metadata that varies per outlet. For example, the "Title" field can be long on Amazon.com, but must be short for mobile Multimedia Messaging Service (MMS) delivery.

Additionally, editors must be assigned to create the packages. To make it possible for mere mortals to enter all this data, preferably before the Games begin, we need a user-friendly interface that exposes just the right data, performs data validation, ensures that required fields are completed, then transforms all this information into the XML file required by the video distribution application. Once again, SharePoint came to the rescue.

We built the UI—the form—by using InfoPath 2007, which allows us to embed the business logic into the form so that when an editor works on metadata for a specific package, the only fields that appear

Learning Path

Getting Started with SharePoint

"SharePoint Server 2007 Revealed," InstantDoc ID 94914

"SharePoint Server 2007 Unleashed," InstantDoc ID 94652

"Windows SharePoint Services 3.0 Out of the Box," InstantDoc ID 94240

are those needed by the appropriate outlets. The form also makes sure the data complies with the datatype and content requirements of the video distribution application.

So that we don't have to deploy the InfoPath client on our systems, we're using InfoPath Forms Services, a feature of Microsoft Office SharePoint Server (MOSS) 2007 Enterprise Edition, to render the forms in users' browsers. When a form is saved, the data is stored in a SharePoint list, and a custom application page uses a workflow to publish the data to the XML format that the video distribution application requires. This application is the most heavily coded application of the four SharePoint solutions I'm describing in this article, and even this application took two smart folks from Net-Fusion, a Microsoft Gold Partner, less than two weeks to create. It would have taken months without the functionality that InfoPath and MOSS provided.

I'll create custom views of the SharePoint list, add alerts, and create Microsoft Excel reports linked to data in the list. These tools will allow editors, producers, and management to perform their responsibilities related to the process. So if you watch any of the Games on a device other than a television, know that SharePoint helped it get to you.

Transportation Management

Speaking of applications that could have taken months to create, let's talk about the transportation management application we developed in just a few days, without ever opening Visual Studio. NBC's thousands of employees, contractors, and vendors need to travel all over Beijing. And you'll know when watching the Games what a masterful feat it is to move team members from point A to point B. The transportation group consists of a handful of talented folks who must coordinate hundreds of rides

every day for more than three months and oversee as many as 200 vehicles and drivers. We had to provide a way to make it all easier to manage.

The transportation management application needed to allow any transportation team member to enter information about a ride request, assign a vehicle and driver (a “transfer”) to fulfill the request, and enable monitoring and reporting of the transportation group’s activities. In previous Games, all ride requests were submitted by phone. This time, we wanted to let users submit requests online. Because SharePoint can use alerts and workflows to notify users when data changes, I wanted the application to notify a user when his or her ride request had been assigned a transfer, so that the user would know which vehicle to look for, when the ride would depart, and who else was going on the same ride.

The challenge with this application began with the data tables. To properly support the application, we needed tables with vehicle information, ride requests, and locations. The transportation team needed to be able to easily pull up information such as addresses, maps, and even photos of buildings. SharePoint isn’t built to create or support relational databases out of the box. However, with Microsoft Access as a client, you can create an application that provides, through queries, the ability to relate data in various lists and delivers a rich, form-based interaction with that data. Traditional Access applications had data in tables within the database (.mdb) itself. Many IT pros have learned that you can gain a lot by putting the data on SQL Server or, now, a SharePoint server instead, and use Access only as the front-end application.

There are several ways to build Access applications that are front ends to SharePoint lists. You can build an Access database and use the migration wizard in Access 2007 to move tables to a SharePoint site as lists. Or you can create the lists in SharePoint and pull them into an Access database application as linked tables. I chose the latter method.

Access then lets you create queries and rich forms; any additional functionality you need becomes an Access programming task rather than a SharePoint programming task. For example, I wanted to give the transportation team a way to identify which of the 200

vehicles were available at a specific place and time to fulfill a ride request. This required a fairly sophisticated SQL query, which I built in Access with help I found via my favorite Internet search engine. I also wanted fields to autopopulate data to reduce data entry for users and transportation managers. I accomplished this with simple Visual Basic for Applications (VBA) code behind the Access forms. In less than three days, I had a rich application that will support our complex transportation management needs.

But I also wanted to provide some of the “nice to have” functionality for this application. First on my list was a Web form for users to submit ride requests. This was easy thanks to SharePoint Designer. I created a new Web form, dragged my SharePoint list onto the form to create the data connection, then modified the Insert template, which is the form rendered by the server when a user creates a new record. Within an hour, I had the form I wanted.

The next step was to create alerts for users. I created a custom view of the ride request list, called My Rides, which filters the list to look for items for which the Created By field was equal to [Me], a special token in SharePoint that translates to the current user. So when I go to the list, I see only my rides, and when another user goes to the list, she sees only hers.

One of the lesser-known features of SharePoint alerts is that when you create a custom view, you can generate alerts, based on changes to data, that appear in that view. So your view can be a filter for your alerts. This feature isn’t well known because the option for creating a view-based alert appears only after you create a custom view, so you might not have ever noticed that option. After I created the My Rides view, I assigned the view to all users. Now, when anything changes about a ride for a user, the user will receive an alert with the appropriate information. We’ll be testing the alert-based notification for a few weeks. If it doesn’t meet our needs, I’ll use SharePoint Designer to create a custom workflow to achieve the same email notification.

I learned some important lessons from building this application. Because SharePoint doesn’t support relational data very well, I needed to denormalize some data points. That is, I have some redundant information across tables. For example, when a user’s ride request is fulfilled as a transfer, the vehicle

number is entered into the transfer table and into the ride request table. Code within the Access form enters the data automatically, but it’s redundant. That was necessary to give the correct experience and information when a user visits the site online or receives an email notification. SharePoint has lookup fields, but working with them can be difficult (e.g., there are places where doing searches, sorts, and queries based on their content isn’t so easy). So, I cut my development time significantly by entering information into two fields—a lookup field, which lets users jump to related items via a link when visiting the application online, and a normal text field, which is easier to manipulate programmatically and to generate views and queries.

Using Access as a front end to a SharePoint application isn’t the right solution for every challenge, but since we had a limited number of internal transportation managers who need to interact with the data in a rich way, we can deploy Access to their systems. All other users will be interacting with the ride request form and with the ride list online, and with email notifications. We could have created part of the solution using SharePoint Designer and its powerful Data View Web part, or we could have opened Visual Studio. But we met our requirements with an easy solution within which the only custom code is related to automating the process and reducing data entry.

On to the Games

These four applications demonstrate some interesting uses of SharePoint to solve problems. I’m writing this article a few months before the Games, and by the time you read this, we’ll be running full speed toward the Opening Ceremony on August 8. We’ll have learned even more by then, and you can learn about these applications at my blog, share.intelliem.com/cs/blogs/danhholme.



InstantDoc ID 99504



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WHAT'S HOT

ASP.NET Version Switcher

Why pay for something when a free tool will do the job? Systems Programmer Ashok Batla was looking for a way to change the .NET Framework version when ASPX pages are compiled. After a bit of searching the Web, Bhatla came across

ASP.NET Version Switcher, a freeware utility created by Denis Bauer.

"We [began using] a new platform for our Web sites. All of our applications were using different versions of the .NET Framework," says Bhatla. "In IIS 5.0, we could switch the version of the .NET Framework by using the IIS admin tool. After we moved to IIS 6.0 on a 64-bit OS, we had many versions of the .NET Framework, and different Web sites needed different versions to run—and IIS 6.0 wouldn't let us switch the .NET Framework version. ASP.NET Version Switcher solved that issue for us. It worked like a charm, and it was super easy to install and use."

Bhatla says that Denis Bauer has developed many useful tools for .NET developers, and he hopes to see Bauer develop even more useful utilities. "Denis Bauer's ASP.NET Version Switcher was an excellent freeware utility that solved a problem for



READER:
Ashok Bhatla
Systems programmer
PRODUCT:
ASP.NET Version Switcher
COMPANY:
Denis Bauer
CONTACT:
www.denisbauer.com

"This tool was an immense help when we moved over to 64-bit [hardware]. There are couple of other tools/utilities from Denis Bauer, and they're all an immense help for .NET applications."

us," says Bhatla. "Installation was very easy, and we haven't had any issues with the product."

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WHAT'S NOT

Say Goodbye to Windows XP

Despite being faced with sluggish Windows Vista sales and an overly hostile reception from critics, Microsoft has finally driven the stake through the heart of Windows XP. The IT sector has weathered the recent economic downturn fairly well, but cash-strapped IT managers are loath to abandon Windows XP—a proven and reliable OS—for a new one that likely requires an expensive hardware refresh. Everyone knows that we can't run on XP forever, but is pulling the plug on XP now the best strategy?

The Retirement of Bill Gates

Bill Gates has finally left the company he helped co-found more than three decades ago. While some would argue that his legacy will be a mixed one, Microsoft clearly won't be the same without him. Critics may point to ruthless Microsoft business practices and a no-holds-barred competitive streak, but those complaints pale in comparison to the transformative role that Gates has played not just in the IT industry, but in the world at large.

Virtualization Confusion

Finally, everyone knows that server virtualization has great cost and power-saving benefits. Beyond that, the marketing departments at all virtualization vendors should be taken to the woodshed for their failure to agree on common virtualization terminology. Case in point: Ask VMware, Intel, and Microsoft what desktop virtualization means, and you'll get three different answers. Ford, GM, and Toyota all agree on what a car is. Shouldn't virtualization vendors do the same with desktop virtualization?

Care to suggest any other things that are driving you (and your IT department) nuts lately? Drop me an email at jjames@windowsitpro.com and vent away.



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WHAT'S HOT

Kerio Mail Server 6

Despite the dominance of Microsoft Exchange Server in the enterprise, many people prefer to look for an alternative. There are several reasons why someone might snub Exchange: Perhaps it was too complex, or too expensive, or didn't have the specific feature set needed. Such was the case with Akis Fotakelis, a systems administrator (and *Windows IT Pro* contributor) who needed an Exchange alternative.

"Back in 2003, I was looking for a solution to replace our

"The only problems I faced were a result of human configuration errors, [but Kerio's] awesome error and event logging options helped us solve those problems easily."

Solaris mail server with one running on Windows that would also integrate with AD," says Fotakelis. "I excluded Exchange due to its complicated nature, and a colleague suggested **Kerio Mail Server (KMS)**. I tested KMS against two other solutions, and KMS prevailed."

Fotakelis says that KMS was easier to use, less expensive, and provided more functionality than other products he examined, and it provided the integration with Active Directory (AD) that he needed. "[KMS integrates] with AD when I need it, but it also lets me create users and mailboxes without having to associate them with a domain account," says Fotakelis. KMS was also considerably less expensive

than other solutions he considered, and that was clearly a big factor in his purchase decision. "The price was a real bargain. Not



READER:

Akis Fotakelis
Systems administrator;
Windows IT Pro
contributor

PRODUCT:

Kerio MailServer 6

COMPANY:

Kerio Technologies

CONTACT:

www.kerio.com

only could I install it on a workstation—saving the license for a Windows server—but I saved money from buying separate programs for antispam, antivirus, backup, archiving, monitoring, and mailing list management."

The lack of cluster support is one negative that Fotakelis points to, and he also ran into a few other minor issues with the product. "I encountered two problems with Kerio. The first one was due to a domain security policy that we tightened and KMS stopped working—but thanks to [the KMS] error log file I easily found the solution in minutes," says Fotakelis. "In another case we forgot the admin's password, and the procedure that Kerio mentions on its site to reset it did not work. [We solved that] by restoring the settings file and restarting the KMS service."

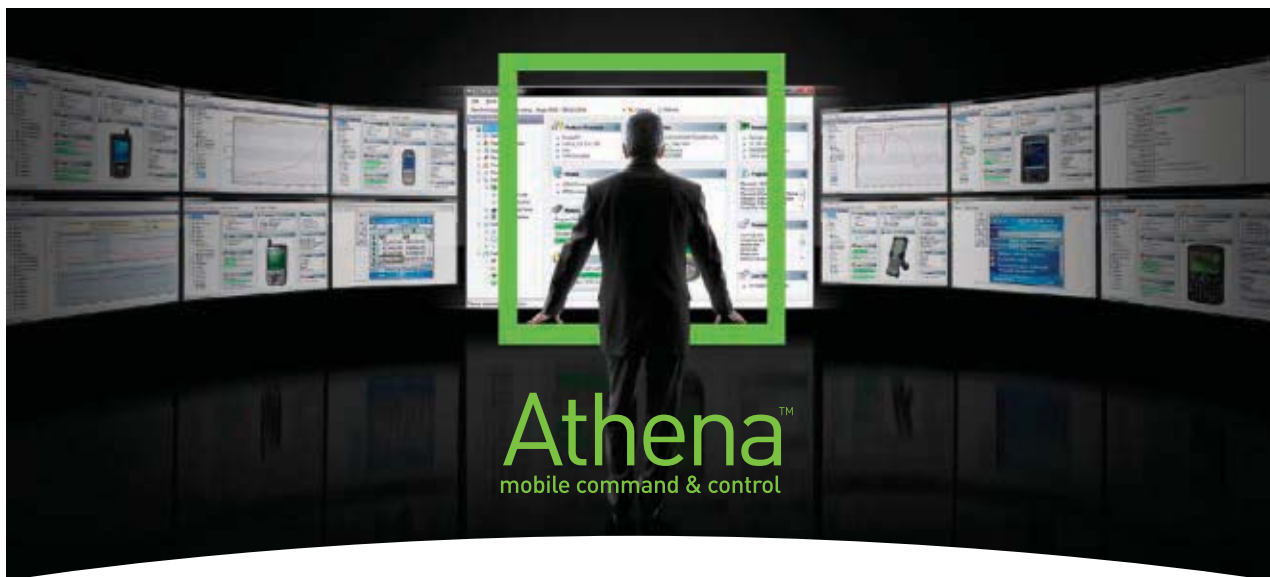
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WHAT'S HOT

SQLconfig

Database migration can be a stressful time for DBAs and IT pros, as it was for Systems Programmer Ashok Bhatla when he found himself working on a migration project. "We were migrating approximately 200 databases from standalone SQL instances to a four-node active/passive cluster [running on the 64-bit version]

of SQL Server 2005," says Bhatla. "As part of this migration, we had to keep track of all the changes to the databases, because the databases were for critical financial applications which were within the scope of the Sarbanes-Oxley auditing process."

Bhatla said that the project involved more than 65 applications and a host of engineering and IT personnel. When Bhatla

looked for an enterprise SQL Server configuration management

"SQLconfig worked on our three-tier architecture [and offered] easy integration with MOM and NetIQ AppManager. It worked with our monitoring system also. It's a cool product if you have lots of SQL servers and databases to migrate."

product to help simplify the task, he came across **SQLconfig** from Idera.

"It worked on our three-tier architecture [and offered] easy integration with Microsoft Operations Manager (MOM) and NetIQ AppManager. As we were using MOM for our server monitoring, [SQLconfig] worked with our monitoring system also." Bhatla is planning to standardize on SQLconfig for auditing all platforms. "It's a cool product if you have lots of SQL Server systems and databases to migrate."



InstantDoc ID 99572

READER:

Ashok Bhatla
Systems programmer

PRODUCT:

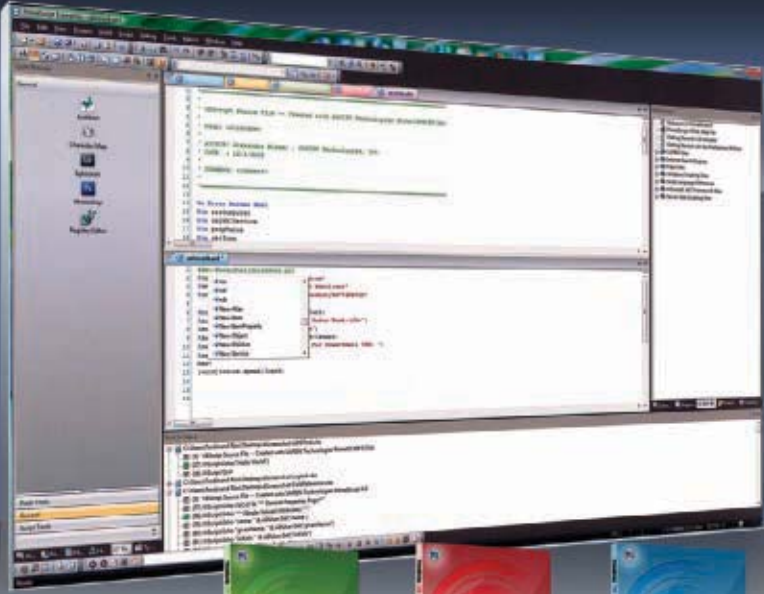
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INSTRUCTION LED BY



Dan Holme has spent over a decade as a consultant and trainer and is the director of Intellim, which delivers advanced, customized solutions-focused training and consulting services supporting enterprise SharePoint, Office, Windows, and Active Directory implementations.



Michael Noel is an MVP for SharePoint Server and an MCSE+I. Michael has authored several major best-selling industry books with a total worldwide circulation of over 150,000 copies; significant titles include SharePoint 2007 Unleashed and SharePoint 2003 Unleashed.

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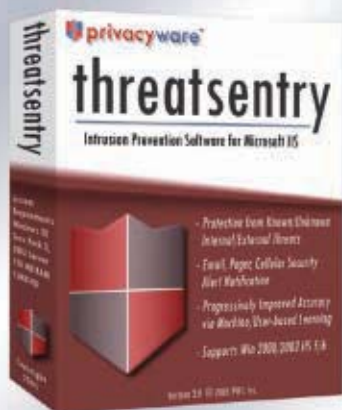
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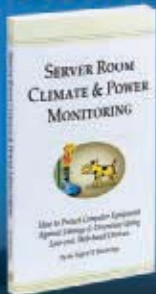
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1&1 Internet	76, 77	Microsoft Corporation	20, 21
www.1and1.com		www.microsoft.com/springboard	
APC	16, 17	Microsoft Corporation	27
www.apcc.com		www.microsoft.com/voip	
AvePoint Inc.	72, 73	Microsoft Corporation	41
www.AvePoint.com		www.microsoft.com/sql	
Brocade Communications Systems	Cover 4	Microsoft Corporation	49
www.brocade.com/cleartheclutter		www.DesignedForBig.com	
Celio Corp	42	Netikus	39
www.celiocorp.com		www.eventsentry.com	
Colligo	55	Network Automation	6
www.colligo.com		www.networkautomation.com	
CTIA Wireless I.T. & Entertainment 2008 ...	56	Odyssey Software	79
www.ctiashow.com		www.odysseysoftware.com	
Ensim Corporation	84	Port80 Software Inc.	78
www.ensim.com		www.port80software.com/msiis	
GFI Software Ltd.	Cover Tip	Privacyware	84
www.gfi.com/ipr		www.privacyware.com	
HP	35	Promodag	18
www.hp.com/go/dependable19		www.promodag.com	
IBM Corporation	Cover 3	Sapien Technologies	82
www.ibm.com/systems/uptime		www.sapien.com	
IBM Corporation	61, 63, 65, 67	Sunbelt Software Inc.	4
www.ibm.com/takebackcontrol		www.sunbelt-software.com	
IT Connections 2008	51	Virtualization Congress	68
www.ITProConnections.com		www.virtualizationcongress.com	
IT Watchdogs	85	Vizioncore	24
FreeBook@ITWatchDogs.com		www.vizioncore.com	
iTripoli	85	VMware Inc.	80, 81
www.adminscripteditor.com/itpro		www.vmware.com/go/save	
KACE	75	Windows Connections	86
www.kace.com/deployindays		www.WinConnections.com	
Lucid8	1, 15	Windows IT Pro	83, 84, 85
www.lucid8.com		www.windowsitpro.com	
Microsoft Corporation	3		
www.serverunleashed.com			

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The following vendors or their products are mentioned in this issue of *Windows IT Pro* on the pages listed below.

3CX	30	Colligo Networks ..	34, 44	Mountainview	SoftArtisans	44
Acronis	38	Dell EqualLogic	33	Systems	SolarWinds	31
Alcatel-Lucent	33	Denis Bauer	74	MySQL AB	SonicWALL	39
Amazon.com	31	Ensim	30	NetApp	Splunk	29
AMD	14	Google	28	NetIQ	Strangeloop	
American Power		HP	29, 38	Network	Networks	44
Conversion	40	Idera	44, 82	Instruments	Symantec	38
AppDev	34	IDM Computer		Odyssey Software ...	Syntergy	45
Apple	28	Solutions	32	Parallels	TeraByte Unlimited ..	38
Astaro	32	Intel	14, 54	Postini	Texas Memory	
AvePoint	34, 44	IPWorx.com	40	PostPath	Systems	33
Azaleos	44	iTripoli	31	PROMODAG	Transcender	36
Barracuda	29	Kerio Technologies ..	78	Quest Software	Trend Micro	45
Networks	29	Laplink Software ...	40	 33, 34, 40, 45	VMware	
Belkin International. .	40	Likewise Software ...	29	Riverbed	 9, 14, 26, 36, 45	
BitMICRO	33	Marathon		Technology	WatchGuard	9
Catbird Networks	33	Technologies	36	SAPIEN	WildPackets	31
Celio Technology	31	McAfee	38	Technologies	Zenprise	30
Centrify	29	Microsoft	37	Scooter Software ...		
				ScriptLogic		

Top 10 IT Admin FEARS



Our readers chime in on the phobias that keep them up at night. (Thanks to Curt Spanburgh, Tim Wiser, Tim Bolton, Mark M. Webster, and Brian Walker!)



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1. Fear of silence in the server room
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3. Fear of power outages or other disasters while you're on vacation (with only a modem connection)
4. Fear of fellow administrators touching your servers without your supervision
5. Fear that the server running your monitoring software is down (or worse, fear that the mail server is down, and the monitoring server is trying to send you an email warning)
6. Fear of the "Phantom Vibration"—when you think your cell phone is vibrating but it isn't
7. Fear of clicking sounds
8. Fear of the "Of course we use DCs to surf the Web; so what?" mindset
9. Fear of dropping your cell phone into the toilet at the airport
10. Fear of retrieving your cell phone from the toilet at the airport

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- 4 In the Trenches
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- 3 IT Conversations
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Number of articles Paul Thurrott has written for the *Windows IT Pro* family of publications

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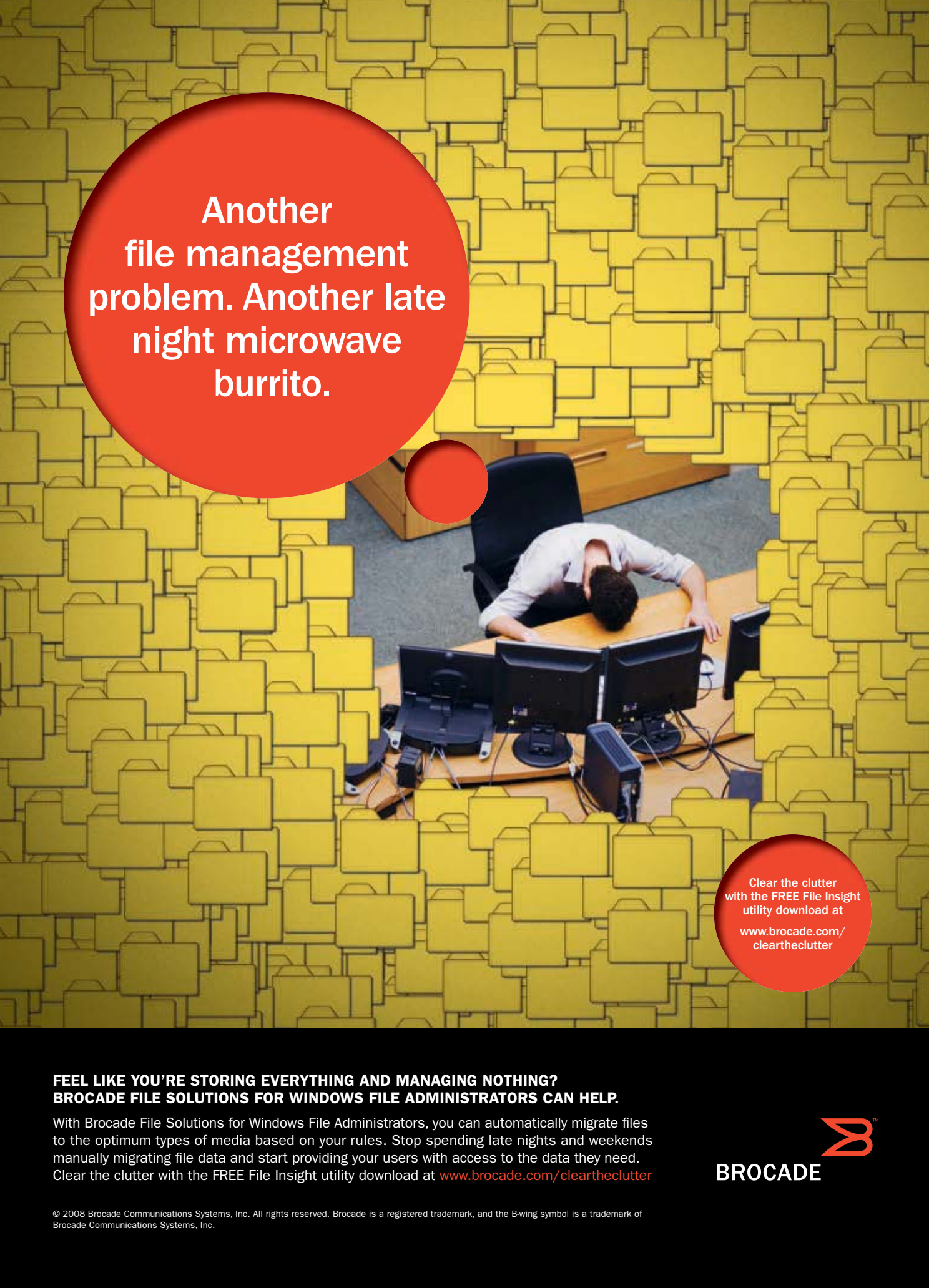
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